

E 29.88:E4 5/V.1

historic structure report
the main building

PUBLIC DOCUMENTS
DEPOSITORY ITEM

volume 1



FEB 22 1989

CLEMSON
LIBRARY

ELLIS ISLAND
STATUE OF LIBERTY

NATIONAL MONUMENT/NEW YORK-NEW JERSEY



*Funds for preparation and printing of this
document were provided by a donation from the
Statue of Liberty/Ellis Island Foundation*

**ELLIS ISLAND
STATUE OF LIBERTY NATIONAL MONUMENT**

**HISTORIC STRUCTURE REPORT
THE MAIN BUILDING**

Volume 1

Prepared by

**Beyer Blinder Belle/
Anderson Notter Finegold**

U.S. Department of the Interior / National Park Service



HISTORIC STRUCTURE REPORT

MAIN BUILDING

TABLE OF CONTENTS


| | |
|---|------------|
| Preface..... | vi |
| I. ADMINSTRATIVE DATA SECTION..... | 1 |
| II. PHYSICAL HISTORY AND ANALYSIS SECTION..... | 4 |
| A. INTRODUCTION..... | 5 |
| 1. Statement of Significance..... | 6 |
| B. HISTORICAL DATA COMPONENT..... | 9 |
| 1. Short History of Ellis Island..... | 10 |
| 2. Previous Research and Restoration..... | 24 |
| 3. Historical Development Plans..... | 27 |
| 4. Historic Use Plans..... | 31 |
| 5. Historic Landscape Analysis..... | 47 |
| a. Historic Development of the Landscape..... | 47 |
| b. A Short History of the User in the Landscape.... | 67 |
| c. Environmental Considerations in the Landscape... | 74 |
| d. Existing Landscape Features..... | 79 |
| 1. Topography..... | 79 |
| 2. Path Layout..... | 79 |
| 3. Paving Materials..... | 84 |
| 4. Lamps..... | 84 |
| 5. Fixed Objects..... | 88 |
| 6. Benches..... | 91 |
| 7. Waste Receptacle..... | 95 |
| 8. Fences and Walks..... | 95 |
| 9. Horticulture..... | 100 |
| 10. Soils..... | 103 |
| 11. Ferry..... | 105 |
| C. ARCHITECTURAL DATA COMPONENT..... | 107 |
| 1. Exterior..... | 108 |
| a. Description..... | 108 |
| b. Existing Conditions..... | 123 |
| 1. Historical Background..... | 123 |
| 2. Condition Survey..... | 132 |
| 3. Diagnosis of Deterioration Processes..... | 143 |
| 4. Roofs..... | 147 |
| 5. Windows and Doors..... | 147 |
| 2. Interior..... | 149 |
| a. Description..... | 149 |
| 1. Natural Lighting..... | 149 |
| b. History of Interior Finishes..... | 150 |
| 1. Selected Interiors..... | 155 |
| a. Northwest Stair Tower (S01)..... | 156 |

| | |
|--|------------|
| b. Baggage Room (128)..... | 160 |
| c. Railroad Ticket Office (121)..... | 165 |
| d. Registry Room (231)..... | 169 |
| e. Board Room (210/211)..... | 179 |
| f. Dormitories (North Bank)..... | 181 |
| g. Special Inquiry Room (303)..... | 184 |
| c. Existing Conditions..... | 188 |
| 1. Drawings..... | 188 |
| 2. Survey..... | 188 |
| 3. Architectural Significance..... | 199 |
| 4. Graffiti..... | 208 |
| 3. Electrical System..... | 215 |
| a. History..... | 215 |
| b. Existing Conditions..... | 222 |
| 4. Heating and Ventilation..... | 232 |
| a. History..... | 232 |
| b. Existing Conditions..... | 234 |
| 5. Plumbing..... | 243 |
| a. History..... | 243 |
| b. Existing Conditions..... | 251 |
| 6. Elevators..... | 259 |
| a. History..... | 259 |
| b. Description..... | 263 |
| c. Existing Conditions..... | 266 |
| 7. Structural System..... | 272 |
| a. Main Building..... | 275 |
| b. Railroad Ticket Office..... | 278 |
| D. ARCHITECTURAL TREATMENT OF THE BUILDING..... | 289 |
| 1. Discussion of Use..... | 290 |
| a. The Program..... | 290 |
| b. The Visitor Experience..... | 293 |
| 2. Preservation Philosophy..... | 293 |
| 3. Design: Issues & Current Developments..... | 296 |
| a. Exterior..... | 296 |
| b. Windows..... | 305 |
| c. Canopy..... | 306 |
| d. Stair..... | 306 |
| e. Theaters..... | 307 |
| f. Light Courts..... | 308 |
| g. Internal Walls..... | 308 |
| h. Electrical..... | 309 |
| i. Heating and Ventilation..... | 310 |
| j. Plumbing..... | 310 |
| k. Elevators..... | 311 |
| l. Structural System..... | 312 |
| 1. Main Building..... | 312 |
| 2. Railroad Ticket Office..... | 313 |
| m. Landscape..... | 313 |
| n. Dining Terrace..... | 314 |
| o. Handicapped Access..... | 314 |
| 1. Standards..... | 314 |
| 2. Access From the Exterior..... | 315 |

| | |
|---|------------|
| 3. Access Throughout the Interior..... | 315 |
| 4. Access to Specific Spaces..... | 316 |
| p. Life Safety..... | 316 |
| 1. Standards..... | 316 |
| 2. Compartmentalization..... | 316 |
| 3. Fire Suppression System..... | 317 |
| 4. Balcony..... | 318 |
| 5. Lightning Arrestor System..... | 318 |
| q. Graffiti..... | 318 |
| r. Archeology..... | 319 |
| 4. Recommendations for Further Study..... | 320 |
| a. Graffiti Inventory and Analysis..... | 320 |
| b. Archeology Site Interpretation..... | 320 |
| c. Future Areas of Research..... | 321 |
| d. H.S.R. Work for Other Buildings..... | 321 |
| E. SELECTED BIBLIOGRAPHY..... | 323 |
| 1. Reports, Books, and Articles..... | 324 |
| 2. Drawings and Documents..... | 326 |
| 3. Photographs..... | 326 |

III. APPENDIXES

- A. Existing Condition Survey (Under separate cover)
- B. Record of Materials Analysis: Representative Paint Samples
- C. Historical Photographs and Postcards
- D. Registry Room Photographic Documentation
- E. Copper Roof Restoration
- F. Cost Estimate



Digitized by the Internet Archive
in 2012 with funding from
LYRASIS Members and Sloan Foundation

<http://archive.org/details/historicstructur00beye>

Preface

This historic structure report (HSR) for the main building at Ellis Island was prepared in conjunction with preliminary design work for rehabilitation of the structure. It builds upon previous studies and historic structure reports done for both the main building and the island and serves to verify, update and supplement these earlier reports.

New information is presented on the historic use, condition, appearance, and development of the main building. Historic landscape development for the entire island is addressed for the first time. Exterior and interior architectural features of the main building are recorded and described in detail with reference to existing conditions. Measured drawings and photographs provide documentation of the structure as of the date of this report. Conservation and restoration measures are discussed and existing structural, mechanical and electrical systems are described and evaluated for use in the proposed rehabilitation.

Plans for the future use of the main building are discussed and a preservation philosophy for rehabilitating structures is explained. Major design issues and impacts are described with reference to preservation and programmatic requirements.

The report was prepared by the following staff members of Beyer Blinder Belle/Anderson Notter Finegold, Associated Architects: James Marston Fitch, Director of Historic Preservation, John H. Stubbs, Fred Wasserman, James W. Rhodes, Sherman Morss, and Donna Carney. Contributions were made by a number of consultants and others who are credited in the text.

I. ADMINISTRATIVE DATA SECTION

This historic structure report is for the main building in Unit One of Ellis Island, Statue of Liberty National Monument, New Jersey. Ellis Island is of the first order of significance--a resource which possesses national significance. The List of Classified Structures (LCS), March 1981, lists all of Ellis Island in Management Category A--structures that must be preserved and maintained.

The General Management Plan (GMP) for Ellis Island (September 1982) proposes the following treatment and use of Unit One structures:

1. The exteriors of all structures will be preserved to perpetuate the historic setting of Ellis Island in its entirety.
2. Interior spaces that are most closely associated with the immigrants' experiences will be preserved and interpreted: the baggage room, the registry room, original dormitories, one of the rooms used by the social service agencies (on the first floor of the west wing), one of the legal inquiry rooms (on the second floor of the west wing), the later dormitory/detention rooms (on the second floor of the baggage and dormitory buildings, the dining room (on the second floor of the kitchen and laundry building), and the railroad ticket office (adjoining the first floor of the main building).
3. The remainder of the interior spaces will be adapted for use by the National Park Service (NPS) for administration, curation, and visitor services, or by private organizations under lease agreements or concessions contracts. One of the purposes of the current report is to determine appropriate and feasible uses for the spaces within the adaptive use subzone.

4. The grounds will be preserved or restored in a manner compatible with historic appearance and use, with tables and benches for outdoor eating provided at selected locations.

The Statue of Liberty/Ellis Island Centennial Commission, appointed by the Secretary of the Interior in 1982, is authorized to conduct a major private fund raising effort to support preservation at the national monument. No other cooperative agreements that are restraints on management in connection with Ellis Island Unit One are now in existence. Leases, contracts, and cooperative agreements may be developed as an outcome of the recommendations generated as a result of this study.

All objects, documents, records, photographs, negatives, and tapes collected or produced as a result of this study will be documented and cataloged according to procedures established in consultation with the park curator, and then will be conserved and stored in the curation facilities to be established at Ellis Island.

II. PHYSICAL HISTORY AND ANALYSIS SECTION

A. INTRODUCTION

1. Statement of Significance¹

Ellis Island, located off the New Jersey shoreline in upper New York Bay and within sight of the Statue of Liberty, is significant as it was the principal federal immigration station in the United States after its opening in 1892. Some 1,500,000 immigrants were processed at the first depot for the Port of New York before it was destroyed by fire in 1897. A new inspection station was opened on the island in 1900 with the completion of the massive main building. During the next half century the small island was enlarged to encompass three connected islands covering 27.5 acres on which were built some forty structures, including general hospital and contagious disease hospital complexes, to provide facilities for the administration of federal immigration laws in processing incoming aliens. All told, it is estimated that some 12 million immigrants entered the United States through Ellis Island.

The island affords an intimate understanding of the immigrant experience. While a "Portal of Hope and Freedom" for many, it was an "Island of Tears" for those who were turned away when they failed to meet the requirements of immigration laws and regulations. Despite recurring scandals caused by occasional mismanagement, corruption, and harsh treatment of immigrants, it was probably one of the more efficient operations of the federal government when the volume of immigration and its often overworked staff and overcrowded facilities are taken into account. Its administrators and staff, through herculean efforts,

¹This statement appears in U.S. Department of the Interior, National Park Service, Denver Service Center, "Historic Resource Study (Historical Component)", by Harlan D. Unrau, 1984, pp. xxii-xxiii.

processed some 5,000 people daily at the peak of immigration, and up to 11,747 on one record day in 1907.

The physical and social history of Ellis Island also reflects important transitions in American attitudes toward immigration. Between 1900 and 1914 immigration was at flood tide, reaching its peak in 1907 when more than one million aliens passed through its doors. It was during that period when the original island was enlarged several times to provide space for major new structures to supplement the main building, including the kitchen and laundry, baggage and dormitory buildings, and the general hospital and contagious disease hospital complexes. After a sharp decline in immigration during World War I, a period that saw the island used primarily as a military hospital and detention and deportation center for suspected enemy aliens, the flow of aliens quickly revived. Immigration was altered dramatically with the passage of immigration restriction laws in the early 1920's. These statutes, which placed a ceiling on annual immigration and established quotas for foreign nations, also provided for the primary inspection of immigrants in American consulates in the immigrant's country of origin. Thereafter only those immigrants whose status in this country was questioned, whose papers were not in order, or who required medical treatment were sent to Ellis Island. The facilities were increasingly used for the assembly, detention, and deportation of aliens who had entered the United States illegally, or of immigrants who had violated the terms of their admittance. Thus, while the early history of the Ellis Island immigration station reflected America's liberal "open door" attitudes toward immigration, the later history of the island was shaped by the new national restrictionist policies which succeeded in narrowing the "open door" to America.

In recognition of its significance and contributions to America's historical development and cultural institutions, Ellis Island has been entered in the National Register of Historic Places as a nationally significant resource. In 1965, by presidential proclamation, Ellis Island became a part of the Statue of Liberty National Monument and was placed under the administration of the National Park Service.

B. HISTORICAL DATA COMPONENT

1. Short History of Ellis Island¹

Ellis Island, a 27.5 acre islet off the New Jersey shoreline in upper New York Bay and lying in the shadow of the Statue of Liberty, is remembered as the port of entry and clearinghouse for more than 12,000,000 immigrants between 1892 and 1954. Approximately three-fourths of the immigrants entering the United States during those years were processed through its gates, making Ellis Island the principal immigration station in the United States during that period. While mass examination of immigrants at Ellis Island ended in 1924, the station continued to serve for several decades as a detention center for immigrants and aliens whose status in this country was questioned. In 1954 the station was closed permanently.

The islets off the New Jersey shore, the largest of which was Bedloe's Island (now Liberty Island), were often referred to as the Oyster Islands during the colonial period. The 3-acre island now called Ellis was purchased from the Indians by the Dutch in 1630 to reward Michael Paauw (Paw) for shipping goods to the emerging colony. Variouslly known as Gull Island to the Indians, Dyre's or Bucking Island in the late 17th and early 18th century, and Gibbet or Anderson's Island in the pre-Revolutionary period because of hangings of traitors and pirates there, its present name is derived from Samuel Ellis who had come into possession of the island by 1785.

¹This history appears in U.S. Department of the Interior, National Park Service, Denver Service Center, "Historic Resource Study (Historical Component)", by Harlan D. Unrau, 1984, pp. 2-11.

During 1794 serious threat of war with France and Great Britain forced the State of New York to secure Ellis Island as part of its harbor defenses system to deter a naval attack. Earthworks were built on the island after France and Great Britain interfered with American trade in the West Indies. The fortifications of the harbor defenses included Fort Wood on Bedloe's Island, Castle William and Fort Columbus on Governor's Island, and the West Battery at the tip of Manhattan (now Castle Clinton National Monument).

In 1808 when Lt. Col. Jonathan Williams of the War Department planned "a casemated Battery" and a garrison on Ellis Island, named East Gibson, as part of the New York Harbor defenses, the State of New York purchased the land from the heirs of Samuel Ellis by condemnation procedures and ceded it to the federal government for \$10,000. Shortly before the War of 1812, a battery of 20 guns, a magazine, and a barracks were constructed on the island. By the terms of an interstate agreement in 1834, Ellis Island and neighboring Bedloe's Island were declared part of New York State, even though both islands were on the New Jersey side of the main ship channel. In 1861, as the Civil War began, Fort Gibson was dismantled and a naval powder magazine established on Ellis Island.

In 1890 the federal government assumed full responsibility for the reception of immigrants at the Port of New York, and a study of New York Harbor was made to determine the best location for a federal immigration depot. Castle Garden, on the Battery at the southern tip of Manhattan Island and the site of the state-administered immigration station for the Port of New York since 1855, had been found by Congress and the Department of the Treasury to be inadequate for the growing influx of foreigners. On April 11, 1890, Congress decided to remove the naval powder

magazine from Ellis Island and appropriated \$75,000 to enable the Secretary of the Treasury to improve Ellis Island for a federal immigration station.

While the new immigration station on Ellis Island was under construction, the Barge Office (Customs station) on the Battery was used for immigrant reception. During its first year of operation in 1891 some 405,664 immigrants, or about 80 percent of the national total, were processed through the Barge Office.

The Immigration Act of 1891 ended the dual system of state-federal administration of immigration matters and established federal control of immigration by creating the Bureau of Immigration under the Department of the Treasury. The office of Commissioner of Immigration for the Port of New York was established with Colonel John Weber as the first appointee. In April 1893, Dr. Joseph Senner, an educated German-Austrian who had been affiliated with leading German newspapers in the United States, replaced Weber.

On January 1, 1892, the new immigration station on Ellis Island was formally opened to process steerage passengers, the first and second cabin passengers being processed on board ship and disembarked directly in Manhattan. At a cost of some \$500,000 the new immigration station consisted of a large two-story processing building, separate hospital facilities, laundry, and utility plant, all constructed of wood. In addition, the old brick and stone Fort Gibson and navy magazines were converted for use as detainees' dormitories and other station purposes. Added landfill approximately doubled the original 3.3-acre island.

Some 445,987 immigrants passed through Ellis Island in 1892 and by June 15, 1897, when the island was virtually destroyed by fire, some 1,500,000 immigrants had entered the United States through its gates, a shift from northern and western Europeans to southern and eastern Europeans becoming evident. Although all immigrants and staff were evacuated safely during the fire, most of the immigration records dating from 1855 that were housed in the former naval magazine were destroyed. Immigration processing was temporarily transferred back to the Barge Office while a new immigration station was constructed on the island.

Later in 1897 Congress authorized funds for new fireproof facilities at Ellis Island, and a contract was awarded to the Broadway firm of Boring & Tilton to design the new brick and ironwork structures. This was the first important government architecture to be designed by private architects under competition mandated by the Tarnsey Act of 1875. Immigration officials estimated that a maximum of 500,000 immigrants would enter the United States through New York in any one year, and the architects proceeded under that projection.

While immigration activities were being carried out at the Barge Office reports of serious scandals of graft and brutality among immigration inspectors under the administration of Thomas Fitchie and his assistant Edward F. McSweeney spurred a federal investigation. It was found that many of the reports were true, but only minimal corrective measures were taken in anticipation that the reopening of Ellis Island would rectify conditions.

The new Ellis Island immigration station was opened on December 17, 1900, with a total of 2,251 immigrants received for inspection that day. At a cost of some \$1,500,000 the

new station complex featured an impressive French Renaissance-style brick structure laid in Flemish bond with limestone trim. It was calculated that 5,000 immigrants per day could be processed through the building. Two dormitories with a 600-person sleeping capacity were on the third floor. The largest room in the building was the registry or examination hall on the second floor (200 feet long, 100 feet wide, and 56 feet high) with most of the floor space divided into twelve narrow alleys for the lines of immigrants awaiting examination. Also on the second floor were telegraph and railroad offices, rooms for boards of special inquiry, and a dormitory for detainees. The first floor accommodated administrative offices, a baggage room, and a large railroad waiting area.

North of the main building were a large kitchen and laundry building, with a bathhouse capable of showering 8,000 immigrants per day, and a powerhouse, both of which would be ready for use the following year. Construction was also underway, to be completed by March 1901, for a hospital complex on a second island (Island No. 2), separated from Island No. 1 by a ferry slip and constructed with additional landfill.

Upon assuming the presidency in 1901, Theodore Roosevelt began to focus on "cleaning house" at Ellis Island following exposure of several scandals under the Fitchie-McSweeney administration. William Williams, a respected young Wall Street lawyer with experience in government legal service, was named the new Commissioner of Immigration for the Port of New York in 1902. Almost immediately he instituted procedures to ensure the efficient, honest, courteous, and sanitary treatment of immigrants. During the two terms (1902-05 and 1909-13) of his capable management and that of Robert Watchorn (1905-09), a career Immigration Service official, Ellis Island operated at peak capacity.

With the United States economy recovering from the lengthy depression of the early 1890s and entering a period of rapid growth and industrial expansion, Europeans came to our shores in record numbers in the pre-World War I years. As early as 1903 some 12,600 immigrants arrived at New York on one day, requiring nearly half to remain in steerage for several days because of inadequate and congested facilities to process all in a day or provide overnight quarters at Ellis Island. By 1905, 821,169 immigrants were processed at the station, causing numerous logistical problems regarding the many detainees who were frequently required to remain on the island for several days or more. This came to be a frequent occurrence during the next decade, with the peak year at Ellis Island coming in 1907 when 1,004,756 were received. On April 17 of that year alone, 11,747 immigrants passed through the station -- an all-time high. Detained immigrants for that year totaled 195,540. Following a decline in immigration after recession in 1907, the number of foreigners landing at the island increased nearly to its earlier levels in the years before World War I, as 878,052 immigrants passed through the Port of New York in 1914.

From the outset the physical plant at Ellis Island bulged at the seams. In spite of improvisation, long-range planning, and new construction, the island's facilities continued to lag behind the demands placed upon them by the massive numbers of immigrants passing through the station. Thus, a number of projects, including construction of new buildings, additions to old ones, and remodeling of others, was initiated before the outbreak of World War I to provide the badly needed space. In 1908 the baggage and dormitory building on Island No. 1 was completed, and the capacity of the hospital on Island No. 2 was doubled with the construction of a new hospital extension and an

administration building. That same year the kitchen and laundry building was remodeled to convert the entire upper floor to a large dining room accommodating 1,000 people at a sitting, and the main building was altered to provide additional dormitory space and improve the lighting, ventilation, and plumbing systems.

The years 1911-14 witnessed considerable improvements to the island's facilities. The contagious disease hospital complex on Island No. 3, which had been commenced in 1905, was opened for use in 1911. That same year a third story was added to the west wing of the main building to provide day quarters for detainees and administrative space. In addition medical offices were moved from the second floor to a larger space on the lower floor of the main building and the old stairway through the large opening in the middle of the registry room floor was removed and replaced with one beneath the gallery, thus allowing the entire registry room to be used for immigrant inspection. The iron railings dividing the registry room floor into passageways were removed and replaced with simple, more comfortable benches. In 1913-14 a third story was added to the east wing of the main building to provide additional space for medical inspection, and a third story was added to the baggage and dormitory building, providing more and better ventilated dormitory space, separate day rooms, and large open-air porches. A new fireproof carpenter and bakery shop was begun on Island No. 1, and the first section of a new concrete, granite-filled seawall was completed, replacing a portion of the rapidly decaying old cribwork.

During World War I there was a sharp decline in immigration, as the numbers of newcomers passing through Ellis Island decreased from 178,416 in 1915 to 28,867 in 1918. Frederic C. Howe, a well-known municipal reformer and

recently director of the People's Institute at Cooper Union in New York City, was named the new Commissioner of Immigration for the Port of New York after the war erupted in 1914. He established as his goal a policy of humanizing the "Island of Tears" and making life less grim for detainees.

On July 30, 1916, explosions set off by German saboteurs at nearby Black Tom Wharf in New Jersey severely damaged the Ellis Island buildings. During the next two years repairs of the explosion damage were completed, one of the most notable being a new ceiling over the registry room constructed in the form of a Guastavino arch and augmented by a red-tile floor replacing the old worn asphalt.

When the United States entered the war on April 6, 1917, the Ellis Island facilities were used to hold in custody German merchant ship crews whose ships were lying in anchor in New York Harbor. Numerous suspected enemy aliens throughout the nation were also rounded up and brought to Ellis Island for incarceration. In 1918-19 the United States Army and Navy took over the main building, the baggage and dormitory building, and the hospital complex on Islands Nos. 2 and 3 for use as a way station and treatment of returning sick and wounded American servicemen.

Thereafter, regular inspection of arriving aliens was conducted on board ship or at the docks. The close of the war was accompanied by the "Red Scare," as anti-foreign fears and hatreds were transferred from German-Americans to suspected alien communists, anarchists, socialists, and radicals. Hundreds of suspected alien radicals were interned at Ellis Island, and many were deported under new legislation based on the principle of guilt by association with an organization advocating revolution.

The aging and neglected facilities at Ellis Island were reopened for immigrant inspection in 1920, and postwar immigration quickly revived, with 560,971 immigrants passing through Ellis Island in 1921. Limited appropriations, however, restricted improvements at Ellis Island to the completion of much of the concrete and granite seawall and the beginning of landfill between Islands Nos. 2 and 3.

The first immigration quota law, passed in 1921, added to the problems of administration at Ellis Island since it provided that the number of any European nationality entering the United States in a given year could not exceed three percent of foreign-born persons of that nationality who lived here in 1910. Nationality was to be determined by country of birth, and no more than twenty percent of the annual quota of any nationality could be received in any given month. The total number of immigrants admissible under the system was set at nearly 358,000, but there were numerous classes exempted from the quota system.

Thereafter, steamship companies rushed to land each month's quota of immigrants in sharp competition, causing considerable congestion in the deteriorating Ellis Island facilities. Frederick A. Wallis, a deputy police commissioner in New York City who was appointed Commissioner of Immigration at Ellis Island in June 1920, resigned in despair over the quota restrictions as well as Congress' rejection of his proposals to rehabilitate the island. In October 1921 Robert E. Tod, a New York banker and philanthropist, assumed the office of commissioner. While Tod managed to carry out some improvements to the Ellis Island facilities with limited funds, he too resigned in frustration in June 1923 to be replaced by Henry H. Curran, a New York City Republican who had run for mayor and been a magistrate and borough president of Manhattan.

The Immigration Act of 1924 had a significant impact on the operation of Ellis Island. The law further restricted immigration, changing the quota basis from the census of 1910 to that of 1890, and reducing the annual quota immigration to some 164,000. (Later in 1929 the act was amended with new quotas based on the 1920 census, and the maximum number of annual admissions was lowered to 150,000.) It also provided for the examination and qualification of immigrants in their countries of origin with inspections conducted by the staffs of United States consulates overseas. As a result of this law the principal function of Ellis Island was changed from that of a primary immigrant examination center to that of a center for the assembly, detention, and deportation of aliens who had entered the United States illegally or had violated the terms of their admittance. Fewer and fewer new immigrants, all of whom now received a final federal inspection on the ships entering New York Harbor, were sent to Ellis Island because their papers were not in order, their status was questioned, or they required medical treatment. Accordingly, the buildings at Ellis Island slowly fell into disuse and disrepair.

After the stock market crash of 1929 immigration to the United States was sharply reduced as a result of the lack of economic opportunity. Moreover, President Herbert C. Hoover ordered American consuls to enforce strictly the prohibition against admission of persons liable to become public charges. Following the spirit of Hoover's policy, Secretary of Labor William N. Doak led a national roundup of illegal aliens for prospective deportation and transferred many of them to Ellis Island.

In November 1931 Edward Corsi, an Italian immigrant who had passed through Ellis Island in 1907 and had been active in social service work among New York City immigrants, became Commissioner of Immigration for the Port of New York. During his administration, which lasted until early 1934, Corsi "humanized" the conditions under which the detainees were kept on Ellis Island, oversaw physical improvements to the station, and softened the harsher aspects of Doak's deportation policy.

In 1933 Frances Perkins, a long-time social service worker who had been appointed by President Franklin D. Roosevelt as his Secretary of Labor, established a nonpartisan committee of prominent citizens, under the chairmanship of Carleton H. Palmer, a New York business executive, to undertake a complete analysis of Ellis Island and to make recommendations for future improvements there. As a result of Corsi's efforts and the committee's recommendations issued in early 1934 the last major construction activities at Ellis Island were carried out during the next several years. Funds from the Public Works Administration allocated for landfill permitted the addition of recreation grounds on the Manhattan side of the main building, and landscaping of new playgrounds and gardens continued for several years with Works Progress Administration labor, including the area between Islands Nos. 2 and 3. The new concrete and granite seawall, portions of which had been constructed at intervals since 1913, was finally completed in 1934. In 1934-35 the baggage and dormitory building was remodeled to allow better segregation of the different classes of deportees. Other construction activities during the mid-1930s included a recreation hall and shelter on the recently-landscaped area between Islands Nos. 2 and 3; sun porches added to some contagious disease wards on Island No. 3; improved quarters

for the medical staff on Island No. 2; a new fireproof ferry house built at the end of the ferry slip containing waiting rooms, lunch counters, guard rooms, and a repair shop; a new immigration building with fenced-in recreation space on both sides, on the recently landfilled area behind the new ferry house, intended as a place for immigrants to be segregated from deportees; and new fireproof passageways constructed to connect the ferry house and immigration building with Island No. 1.

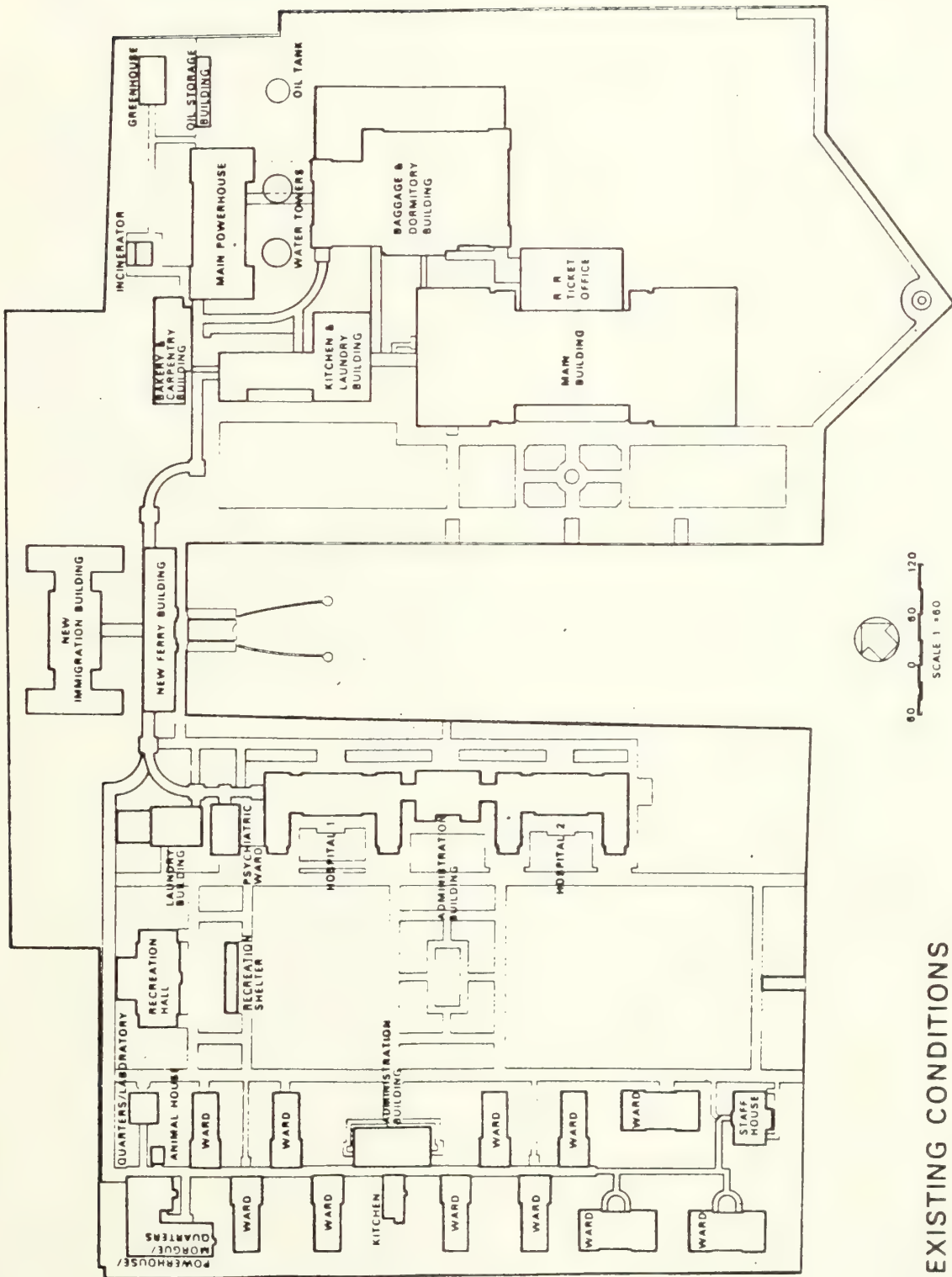
After World War II erupted in Europe in September 1939, the United States Coast Guard occupied the immigration building, ferry house, and ground floor of the baggage and dormitory building to house and train recruits to patrol the region's waters. In 1940 the Immigration and Naturalization Service was transferred from the Department of Labor to the Department of Justice, symbolic of the fact that immigrants had come to be considered primarily as potential threats to our national security. After the United States entered the war in December 1941 Ellis Island was again used as a detention center for suspected enemy aliens and as a hospital for returning wounded servicemen. The island's facilities were in such demand that administrative functions were transferred to the WPA Headquarters Building in Manhattan in 1943 for lack of room on the island.

Following the decommissioning of the Coast Guard station in 1946, the island remained in use primarily as a detention center for aliens whose status was questioned. A brief flurry of activity occurred on the island after the passage of the Internal Security Act of 1950, which excluded arriving aliens who had been members of Communist and Fascist organizations, and remodeling and repairs were performed on the buildings to accommodate the detainees who numbered as many as 1,500 at one point. In 1951 the United

States Public Health Service closed the hospital complex on the island and some of the hospital buildings on Island No. 2 were occupied temporarily by the Coast Guard. As a result of the Immigration and Naturalization Act of 1952 and a liberalized detention policy in 1954, the number of detainees on Ellis Island dropped to less than 30. Accordingly, the Ellis Island facility, consisting of some forty structures, was closed in November 1954 and declared excess federal property.

From 1954 to 1965 Ellis Island was under the jurisdiction of the General Services Administration while a variety of proposals both from the public and private sectors were considered for the future disposition and utilization of the island's facilities. On May 11, 1965, President Lyndon B. Johnson issued Proclamation 3656 adding Ellis Island to Statue of Liberty National Monument, thus placing the island under the jurisdiction of the National Park Service.

The existing buildings are depicted on the site plan in exhibit 1.



EXISTING CONDITIONS
ELLIS ISLAND
STATUE OF LIBERTY NATIONAL MONUMENT
 NEW YORK / NEW JERSEY

UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

398 20.017
 MARCH 80 DSC

2. Previous Research and Restoration

A number of studies and historic structure reports provide extensive information about the history and architecture of Ellis Island.

"Report on Ellis Island as an Immigration Depot, 1890-1954" was prepared by Thomas Pitkin for the National Park Service in 1966. After further research, this material was published under the title Keepers of the Gate in 1975. Pitkin's work is an administrative history of the island, focusing on the operations of the immigration station.

"Historic Structures Report, Ellis Island", was prepared by Building Conservation Technology/The Ehrenkrantz Group in 1978. The report includes information on the first immigration station, the architectural design competition and construction of the second immigration station, descriptions of the architecture and physical condition of each structure on the island, as well as stabilization recommendations and cost estimates.

In addition, The Ehrenkrantz Group and Syska & Hennessy were responsible for the rehabilitation of the mechanical and electrical systems of the main building and associated structures on Ellis Island. These firms prepared "The Mechanical and Electrical Rehabilitation of the Main Building at Ellis Island" in 1978. This report included a survey of existing mechanical, electrical, and plumbing systems, a discussion of alternative schematic designs for new systems, and a study of the effects of moisture on the fabric of the building.

Subsequently, the scope of work was "revised to include survey of all stone work, mortar analysis, recommendations

for necessary repair of stone work, alternatives for the repair of windows and doors and a revised electrical distribution design; and to eliminate rehabilitation of the mechanical system"¹. As a result, the Ehrenkrantz Group and Syska & Hennessy prepared the "Historic Structure Report; Mechanical and Electrical Rehabilitation; Main Building" (1980) which actually discussed windows, masonry, and the electrical system.

The Ehrenkrantz Group proceeded to conduct work for the following contracts on the main building:

- a. IF 1940-79A New Wood Windows and Doors
- b. RFP 1940-79B Repair of Wood Windows and Doors
- c. IF 1940-79C Metal Window Rehabilitation
- d. IF 1940-79D Stone Repair and Repointing
- e. IF 1940-79E Brick Rebuilding and Repointing

They produced a set of contract documents including 113 drawings dated May, 1979.

In addition, electrical work was undertaken in 1982-1983 by The Ehrenkrantz Group.

A structural investigation was conducted by Irwin Cantor, P.C. in 1978. His report, "Structural Investigation of the Main Building at Ellis Island", provided a structural analysis of both typical conditions and particular critical situations. Recommendations were made for a restoration program.

¹Building Conservation Technology/The Ehrenkrantz Group/Syska & Hennessy, Inc., "Historic Structure Report; Mechanical and Electrical Rehabilitation; Main Building", prepared for the National Park Service, 1980, p. ii.

The "Historic Structure Report; Ellis Island; Historical Data", written by Harlan D. Unrau, was published by the National Park Service in 1981. This report is an architectural history of the island. It focuses on the main building, the baggage and dormitory building, the kitchen and laundry building, and the powerhouse. Less extensive treatment is given to the buildings on islands 2 and 3.

In 1982, The Museum Studies Program of New York University, under the direction of Professor Flora S. Kaplan, prepared an "Inventory of Historic Furnishings at Ellis Island". This publication was the product of an eight-week effort to locate, identify and catalog as many movable furnishings on the island as possible.

An "Historic Resource Study (Historical Component)", written by Harlan D. Unrau, was published by the National Park Service in May, 1984. This document consists of a series of studies on selected historical topics including American immigration policy and laws, immigration statistics, administrative history of Ellis Island, the hospital and public health service activities on the island, Ellis Island during World War I and II, detention and deportation, the immigrant experience, and building use.

For complete references to the above documents see the bibliography on page 324.

3. Historical Development Plans¹

These plans illustrate the age of all existing walls in the main building. Walls are dated to one of three periods:

Original walls 1900-1906

Walls added 1907-1923

Walls added 1924-present

Exact dates are given when known. Important historic features which are no longer extant, such as the stairs and canopy, are plotted in their original locations.

The existing walls in the main building date from all periods. The basic relationship of perimeter rooms, corridors, and a core has been retained over time. However, within these areas numerous alterations have occurred.

Few original walls are extant in the first floor west wing. Those which remain define the central corridor leading to the large stair and major divisions of the space. Most of the walls in this area were constructed in the 1930's and 1940's displaying the wide variety of later wall types. These include wood partitions, concrete, wire mesh, and glass with steel mullions (exhibit HD-1).

The walls of the baggage room are original with the exception of the north wall which was added after 1937 and rooms which were built in the corners. Two historic stairs,

¹These plans are based on archival drawings which are in the custody of the Denver Service Center/National Park Service and on information in U.S. Department of the Interior, National Park Service, Denver Service Center, "Historic Structure Report; Ellis Island; Historical Data", by Harlan D. Unrau, 1981.

one dating from 1900-1911 and the other from 1911-1924, are no longer extant (exhibit HD-1).

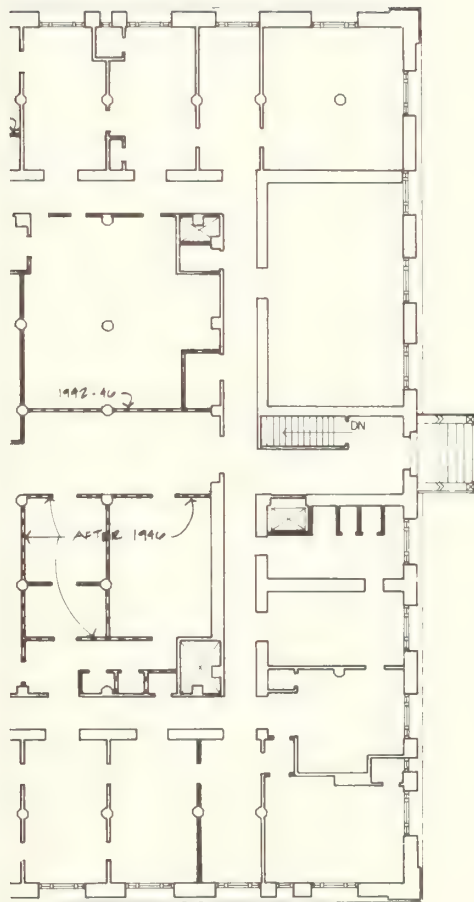
The railroad ticket office has its original exterior walls, dating from 1905-1906.² The south wall, as well as walls in the northeast corner and between two large piers on the south side, date from later periods (exhibit HD-1).

The walls of the perimeter rooms and corridor in the first floor east wing are for the most part original. The core of this wing has one room dating from the 1907-1923 period. The remainder of the walls in the core were built in the 1940's. Some of these walls are actually concrete dividers (exhibit HD-1).

The corridor in the second floor west wing is original. However, most of the walls that subdivide perimeter rooms date from later periods. In certain rooms gypsum board walls and ceilings were added in the late 1940's to early 1950's. The core room has original walls. Rooms were constructed in the two light courts in the 1907-1923 period (exhibit HD-2).

The registry room is considerably smaller than its original configuration. The north wall is the original exterior wall. However, the walls on the east, west, and south sides were all added in 1924. In this year several bathrooms were built at the east end of the registry room. Later features include a low wooden divider at the west end

²The date of construction of this structure has always been unclear. An extension was proposed as early as 1902 and in fiscal year 1905 (1904-05) moneys were reported expended for the new ticket office. The cost of the new structure was reported in a letter of January 10, 1907. See Unrau, pp. 132-33.

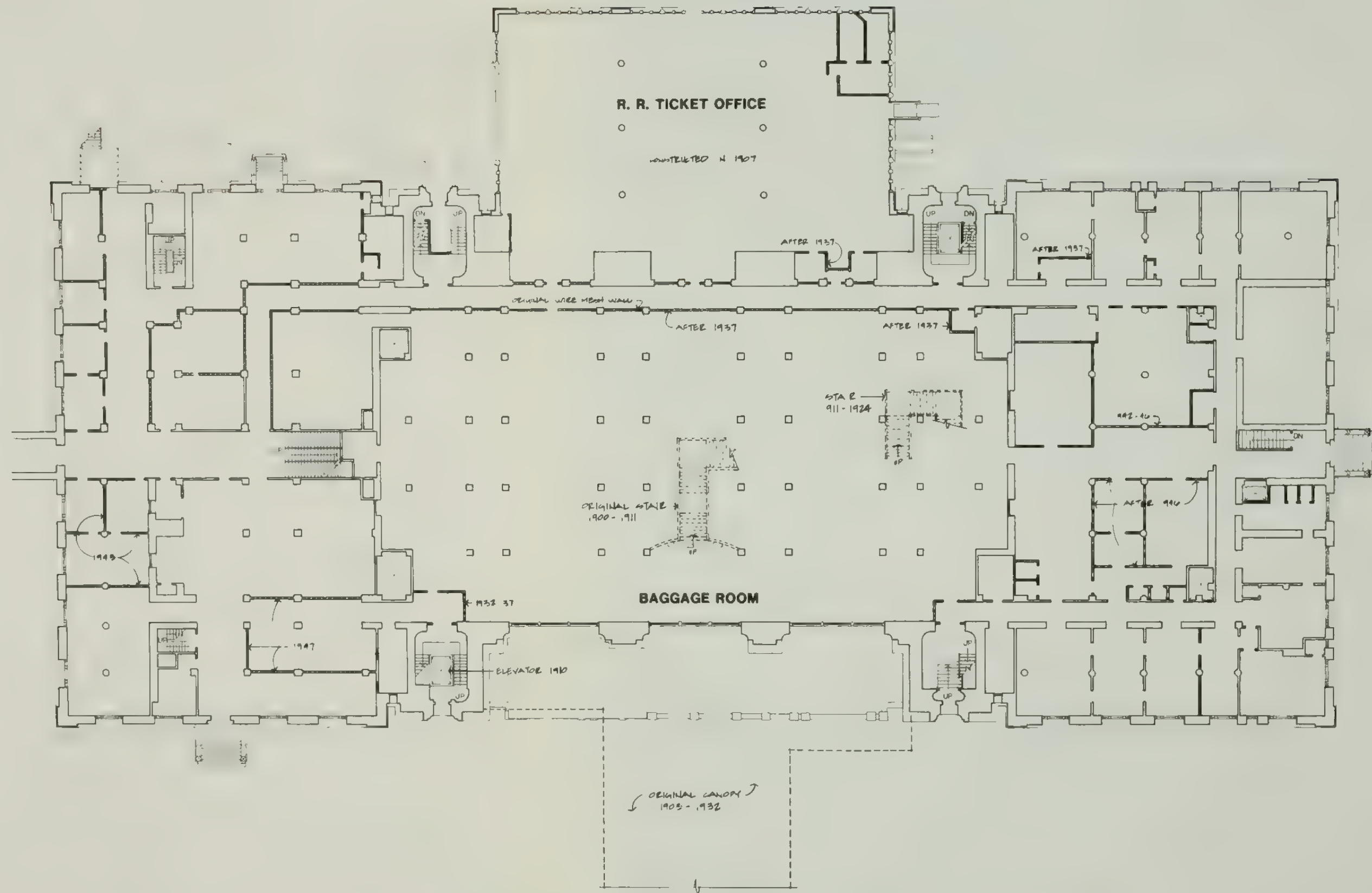


ELLIS ISLAND
MAIN ENTRANCE



-  ORIGINAL WALLS 1900-1906
-  WALLS ADDED 1907-1923
-  WALLS ADDED 1924-PRESENT

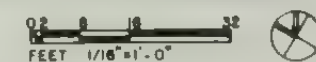
HD-1



ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK/NEW JERSEY

ASSOCIATED ARCHITECTS AUGUST 1983
 BEYER BLINDER BELLE
 ANDERSON NOTTER FINEGOLD INC.

HISTORICAL DEVELOPMENT
FIRST FLOOR PLAN



— ORIGINAL WALLS 1900-1906
 — WALLS ADDED 1907-1923
 WALLS ADDED 1924-PRESENT

HD-1

and a wooden stair from the east end of the registry room to the third floor balcony (1937-1952). The two historic stairs which ascended to the room are no longer extant (exhibit HD-2).

The second floor east wing has basically retained its original configuration and nearly all the existing walls are original. Only one wall was added in the 1907-1923 period and some wood partitions were added after 1940. A room (242) was added in the northeast light court in the 1907-1923 period (exhibit HD-2).

The third floor west wing dates from two periods. The core was built as part of the original building. The perimeter rooms and walls date from 1911 when the third floor addition was built on the west wing (exhibit HD-3).

The north and south mezzanine walls overlooking the registry room are original. However, the walls that subdivide the balconies into dormitory rooms were constructed in 1908. The rooms at the east and west ends of the balcony also date from this year. Certain walls at the west end of the north balcony were added after 1924 (exhibit HD-3).

The third floor east wing dates from two periods. The core was built with the original building and most of the walls are from this era. However, some walls in the core date from after 1935. The perimeter dates from 1914-1915 when the third floor addition was built on the east wing. The southern row of rooms in this wing is original. However, the other walls date from 1940 and 1945 (exhibit HD-3).

4. Historic Use Plans¹

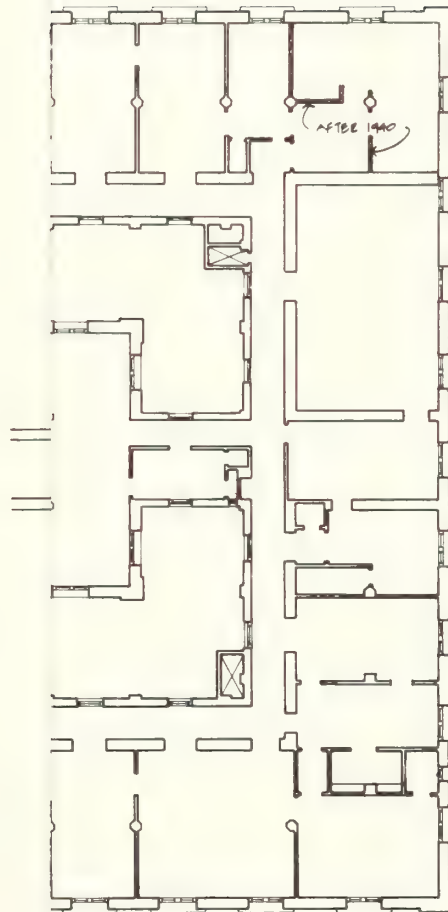
The main building was altered many times between 1900 and 1954. These drawings depict representative plans and functions in four periods: 1900-1906, 1907-1923, 1924-1939, and 1940-1954. They generally illustrate the configuration which existed for the longest time in each period.

Certain areas of the building retained the same basic function over time (i.e.: third floor balcony dormitories). However, it was more typical for an area to experience major changes in use during the immigration period and in subsequent eras. A brief discussion of each part of the building will provide insight into the changing uses of the rooms in the main building.

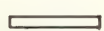

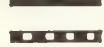
Historically, the first floor west wing was the location of the New York detention room, waiting rooms, and social service agencies. Although the sizes and configurations of the rooms in this wing changed over time, these functions remained constant for most of the building's history (exhibit HU-1).

The center of the first floor was the baggage room in the earliest period. Vestibules were located along the south wall and there was a central stair to the registry room from 1900-1911. During the 1907-1923 period the room was subdivided into many smaller rooms, among which were waiting rooms, money exchange, social services, baggage, and customs inspectors office. A stair was located at the east end of the room between 1911 and 1924. In the 1924-1939

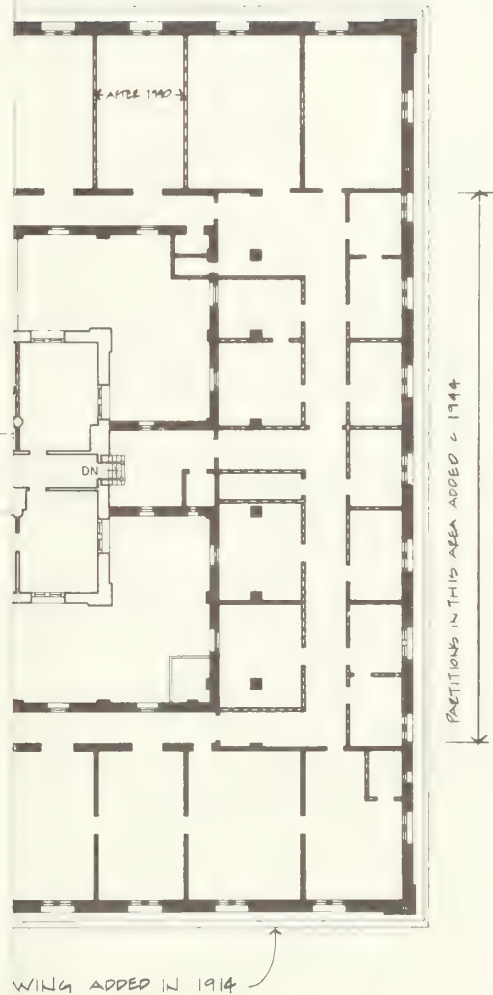
¹These plans are based on archival drawings which are in the custody of the Denver Service Center/National Park Service.



ELLIS ISLAND
MAIN BUILDING

 ORIGINAL WALLS 1900-1906
 WALLS ADDED 1907-1923
 WALLS ADDED 1924-PRESENT

HD-2

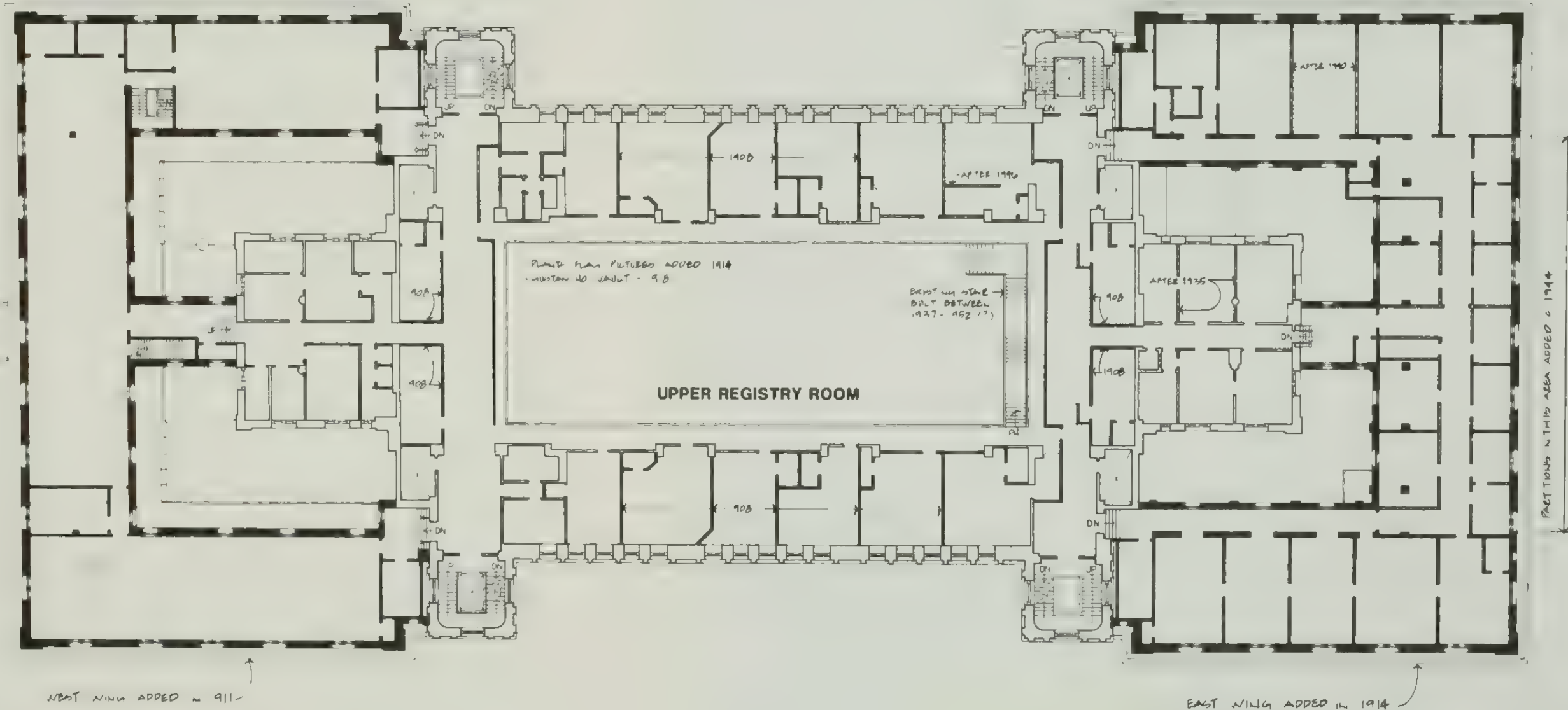


ELLIS ENT
MAIN B



- ORIGINAL WALLS 1900-1906
- WALLS ADDED 1907-1923
- WALLS ADDED 1924-PRESENT

HD-3

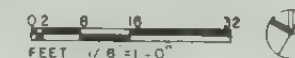


**ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK/NEW JERSEY**

ASSOCIATED ARCHITECTS AUGUST 1983
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

HISTORICAL DEVELOPMENT

THIRD FLOOR PLAN



- ORIGINAL WALLS 1900-1906
- WALLS ADDED 1907-1923
- WALLS ADDED 1924-PRESENT

356 | 26,002 / 3 of 70
DSC | JUL 88

HD-3

period the room once again became one large space and was used as a records room (exhibit HU-2).

Originally the first floor east wing served administrative functions and had a railroad waiting room in the core. The medical division moved to this area in 1911 and progressively took over the entire wing. In the 1924-1939 period the core became record rooms (exhibit HU-3).

The railroad ticket office functioned in this capacity until 1924 when the registry division moved to this area. Later, in 1931, the law division also relocated here (exhibit HU-4).

The main entrance canopy functioned as shelter for arriving immigrants. When the medical division was relocated to the first floor west wing in 1911, part of the canopy area was used for medical examinations. The canopy was removed in 1931-1932 (exhibit HU-5).

The main functions of the second floor west wing were the special inquiry and deporting divisions. In addition, there were some dormitory rooms in the early period and the core became locker rooms in the 1924-1939 period (exhibit HU-6).

The registry room was used for examination and registry. The floor had a maze of iron railings which were removed in 1911 and replaced with benches. In 1924, the size of the registry room was reduced by the construction of partitions on the west and south sides and new toilets at the east. The eastern stair was removed and an east-west partition in this area divided the space into a special inquiry room and a room for the temporarily detained (exhibit HU-7).

The second floor east wing always functioned as the administrative offices for the building (exhibit HU-8).

The core rooms of the third floor west wing were always dormitories. The perimeter rooms, added in 1911, were originally used for special inquiry and detention. These were converted into dormitories in 1924 (exhibit HU-9).

The north and south balcony rooms were originally large dormitories. In 1908 they were subdivided into smaller dormitory rooms. At the same time, dormitory rooms were built on the visitors galleries at the east and west balconies (exhibit HU-10).

The core rooms of the third floor west wing served a number of purposes including dormitories, watchmen's quarters, and bedrooms. The perimeter rooms, added in 1914-1915, housed law offices and the record division. The Chinese division moved to the southeast rooms in 1931 and the law division relocated in the northeast corner in 1940. The remainder of the wing was offices and a large assembly room. The latter was divided into detention rooms in 1945 (exhibit HU-11).

**NATIONAL PARK SERVICE
DENVER SERVICE CENTER ✓**

**BEYER BLUNDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960**

| | |
|-----|------------------|
| 356 | 26,002 / 4 of 70 |
| DSC | JUL 88 |

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**

[illegible]

| | |
|-----------|-----------------|
| DESIGNED: | DATE: 1-9-84 |
| DRAWN: | TECH REVIEW: |

KEY PLAN



TITLE OF SHEET

**FIRST FLOOR PLAN
WEST WING**

SUB SHEET NO.

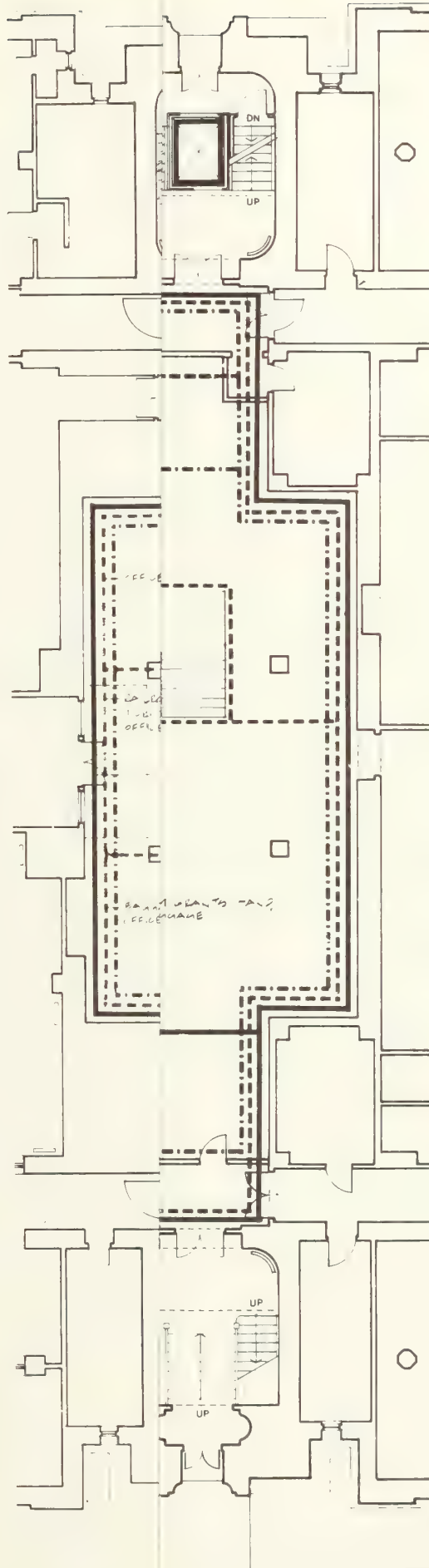
DRAFTING NO.

HU-1

| | |
|-------------|-------|
| PKG. NO. | SHEET |
|-------------|-------|

OF _____

1940 - 1954 ~~_____~~



OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
50 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

BYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KEBBLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|------------------|
| 356 | 26,002 / 5 of 70 |
| DSC | JUL 88 |

**MAIN
BUILDING
ELLIS
ISLAND**
**STATUE OF LIBERTY
NATIONAL MONUMENT**
NEW YORK / NEW JERSEY

| | | | | |
|----|----|-----------|------|-----|
| mk | sh | REVISIONS | date | int |
|----|----|-----------|------|-----|

| | |
|-----------|-----------------|
| DESIGNED: | DATE: 1-9-84 |
| DRAWN: | TECH REVIEW: |

KEY PLAN



TITLE OF SHEET

**FIRST FLOOR PLAN
CENTER**

SUB SHEET NO.

DRAWING NO.

HU-2

PKG.
NO.

SHEET

OF

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3860

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 26,002 / 5 of 70
DSC JUL 88

MAIN
BUILDING
ELLIS
ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

mk aht REVISIONS date

DESIGNED: DATE: 9 84
DRAWN: TECH REVIEW:

KEY PLAN



TITLE OF SHEET

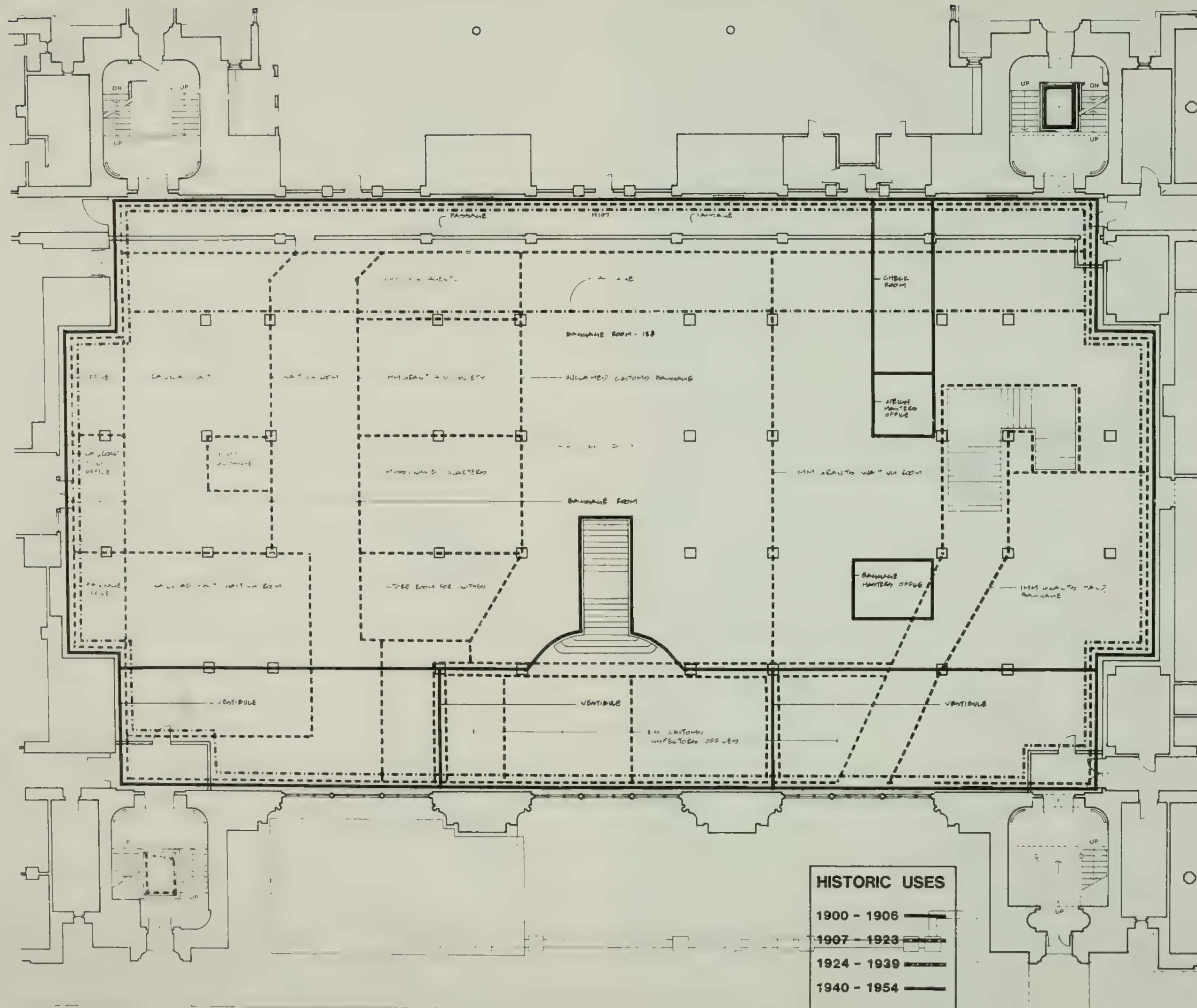
FIRST FLOOR PLAN
CENTER

SUB SHEET NO.

HU-2

DRAWING NO.

PKG. NO. SHEET
OF



HISTORIC USES

1900 - 1906
1907 - 1923
1924 - 1939
1940 - 1954

1940 - 1954 ██████████

[illegible]

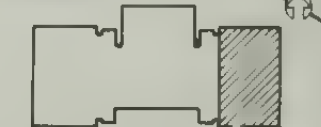
| task | ent | REVISIONS | date |
|------|-----|-----------|------|
|------|-----|-----------|------|

| | |
|-----------|-------|
| DESIGNED: | DATE: |
|-----------|-------|

- 9 - 84

DRAWN: _____ **TECH REVIEW** _____

KEY PLAN



TITLE OF SHEET

FIRST FLOOR PLAN
EAST WING

| | |
|--------------|------------|
| SUB SHEET NO | DRAWING NO |
|--------------|------------|

| | | |
|------|------------|-------|
| HU-3 | PKG. NO | SHEET |
| | | |

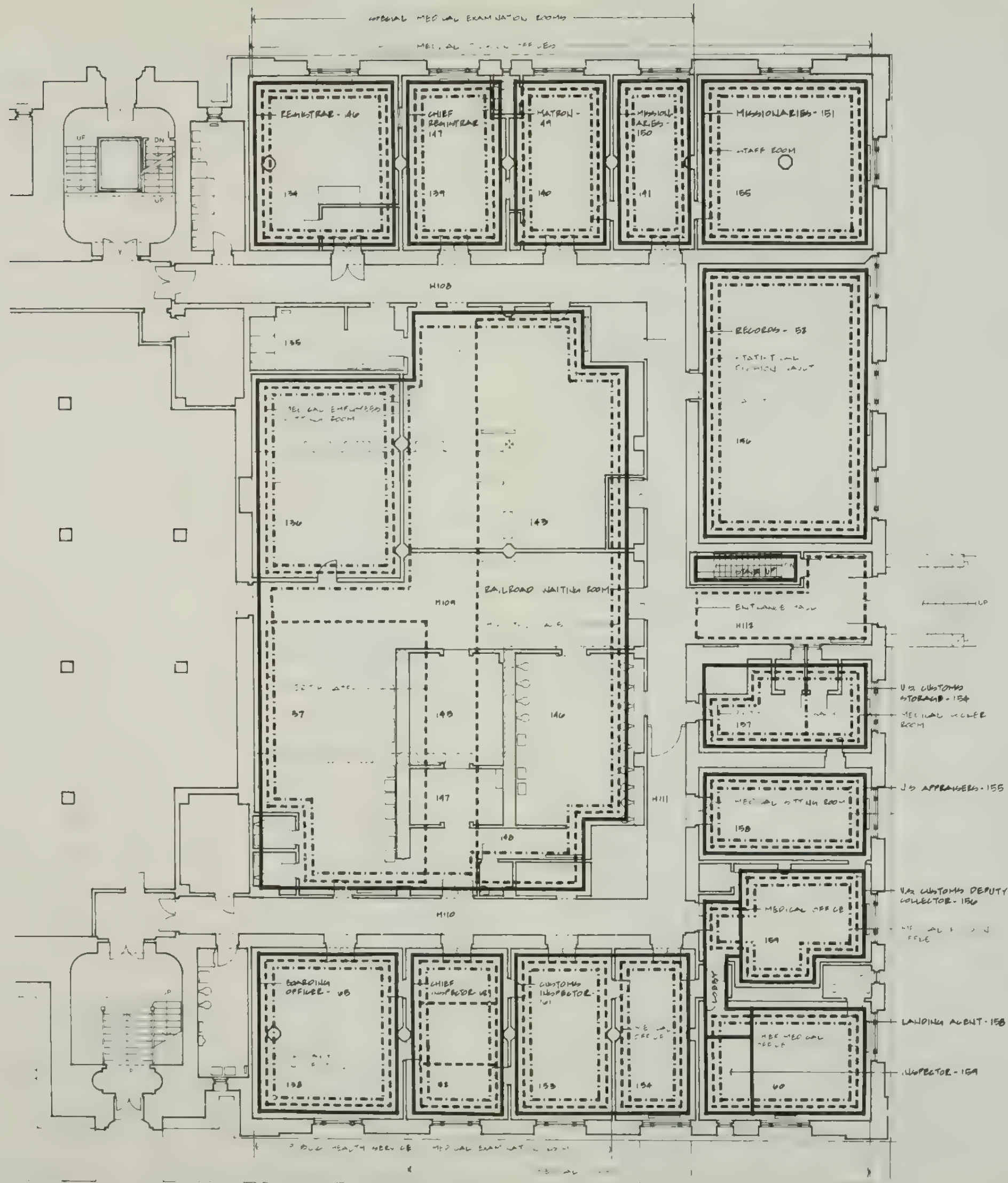
OF _____

1900 - 1906 —————

1907 - 1923 —•••••

1924 - 1939 —•••••

1940 - 1954 —————



| | |
|-------------|-------|
| PKG. NO. | SHEET |
|-------------|-------|



1940 - 1954 -----

**BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3860**

**MECHANICAL &
ELECTRICAL ENGINEERS**
SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT
BRUCE KELLY

SITE ENGINEERS
LOCKWOOD KEBBLER BATTLETT

MATERIALS CONSULTANT
PROFESSOR FRANK MATERO

| | |
|-----|------------------|
| 356 | 26,002 / 7 of 70 |
| DSC | JUL 88 |


**MAIN
BUILDING
ELLIS
ISLAND**
STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

[illegible]

| | |
|-----------|-----------------|
| DESIGNED: | DATE: 1-9-64 |
|-----------|-----------------|

KEY PLAN

KEY PLAN



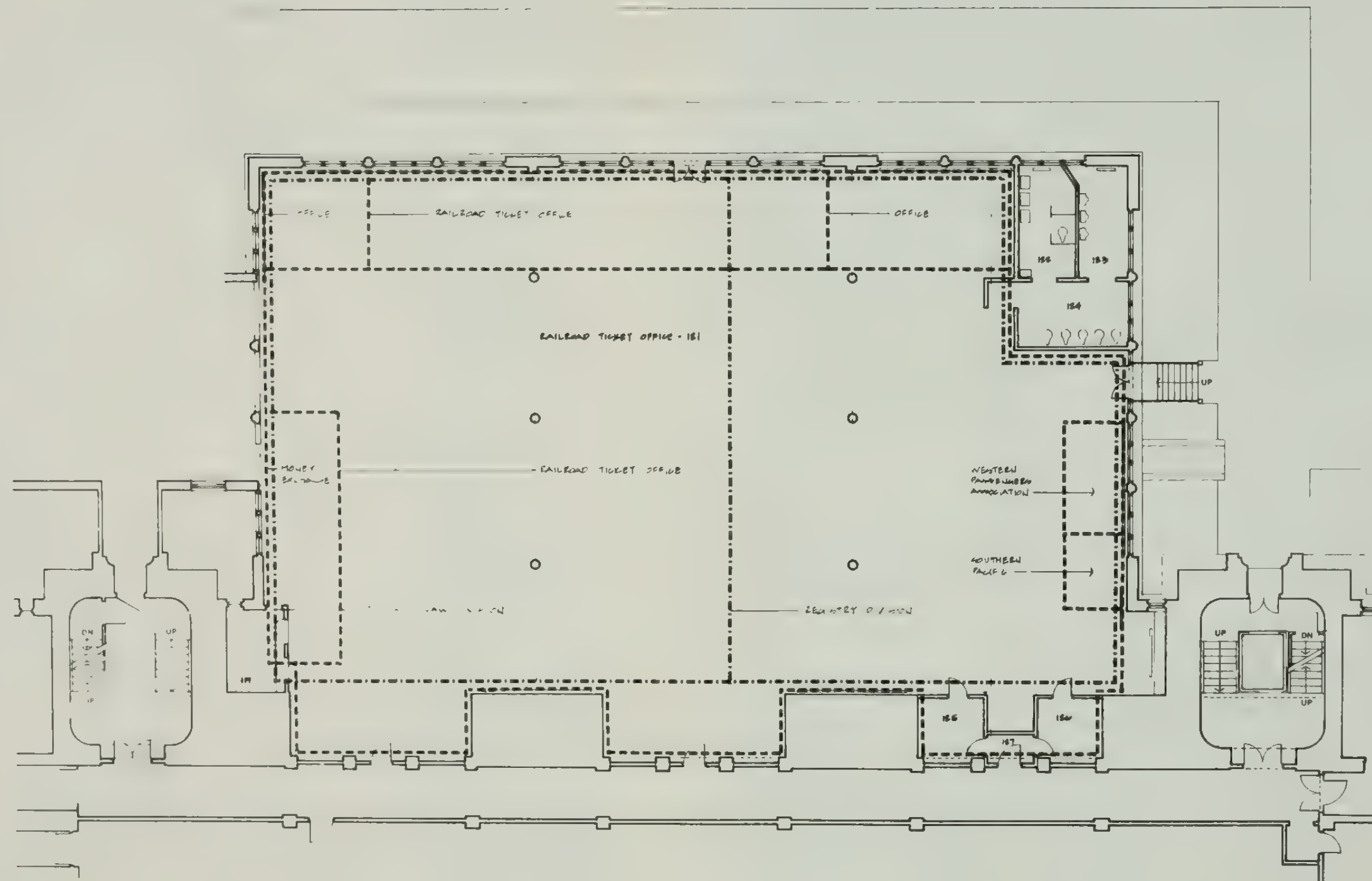
A key plan diagram showing a rectangular area with diagonal hatching, representing a specific feature or boundary. A north arrow is located to the right of the hatched area.

TITLE OF SHEET
FIRST FLOOR PLAN
R R TICKET OFFICE

| | |
|---------------|-------------|
| SUB SHEET NO. | DRAWING NO. |
|---------------|-------------|

HU-4

| | |
|-------------|--|
| PKG. NO. | SHEET |
| _____ | <div style="border: 1px solid black; width: 100px; height: 40px;"></div> |
| _____ | OF _____ |



HISTORIC USES

1900 - 1906 _____
1907 - 1923 _____
1924 - 1930 _____
1940 - 1954 _____

**NATIONAL PARK SERVICE
DENVER SERVICE CENTER**

80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

| | |
|-----|------------------|
| 356 | 26,002 / 8 of 70 |
| DSC | JUL 88 |

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**

[illegible]

REVISIONS

| | |
|------|-----|
| date | ind |
|------|-----|

DESIGNED:

DATE: _____

1-9-84

DRAWN:

TECH REVIEW:

**FIRST FLOOR PLAN
CANOPY AREA**

D R A W I N G N O .

HU-5

PKG
NO.

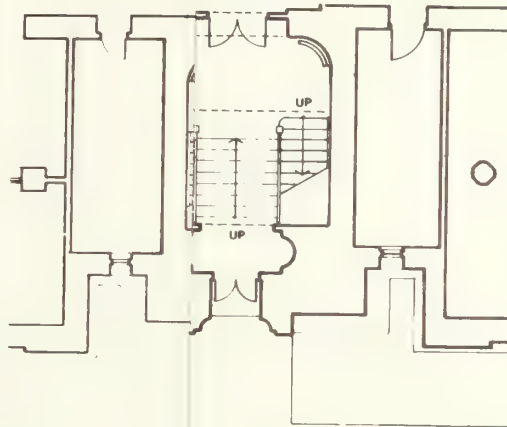
SHEET

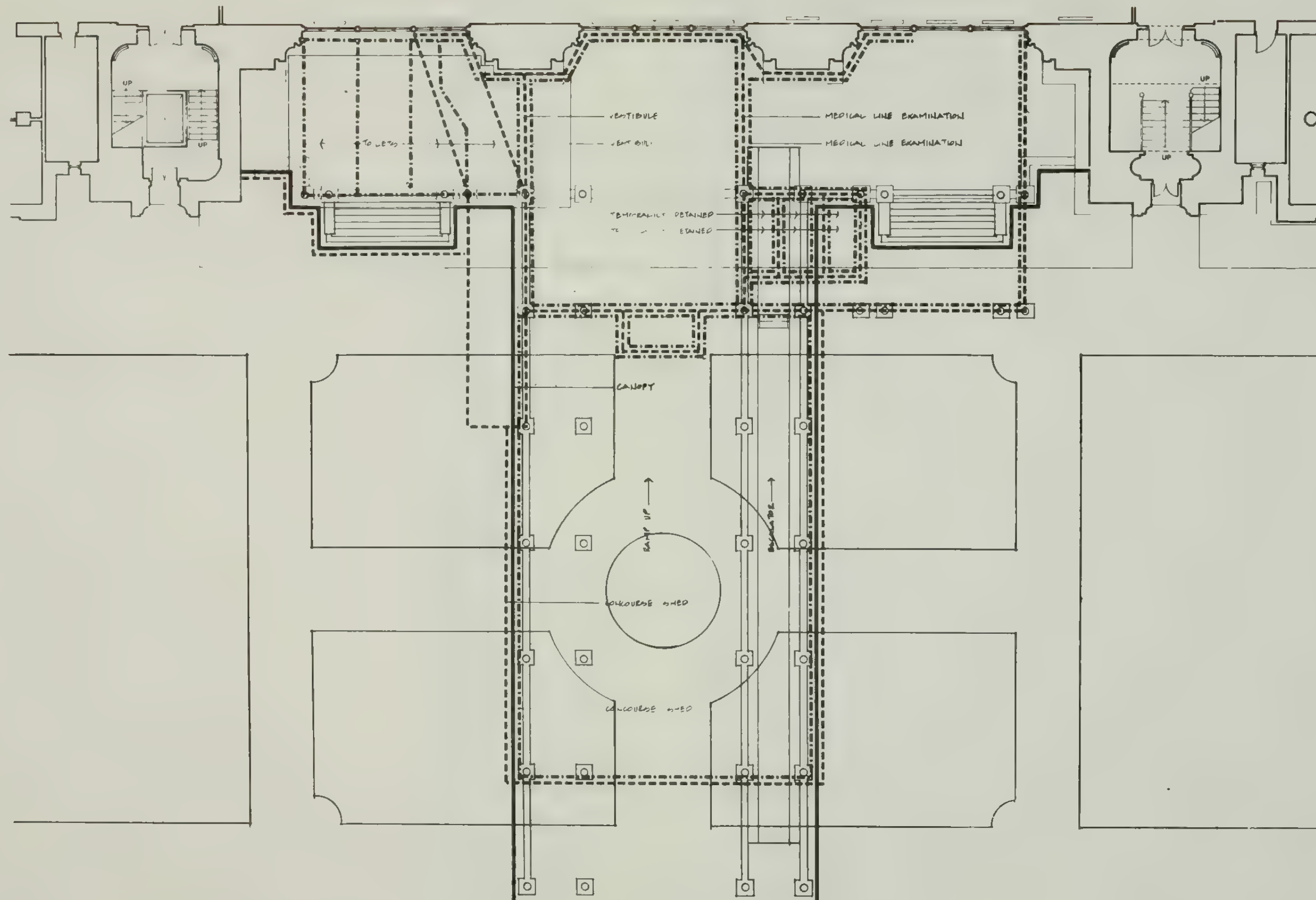
11

[illegible]

—

1940 - 1954 _____





HISTORIC USES

1900 - 1906 ———
 1907 - 1923 ———
 1924 - 1939 ———
 1940 - 1954 ———

UNITED STATES DEPARTMENT
OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL & ELECTRICAL ENGINEERS

BYRKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KEBBLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

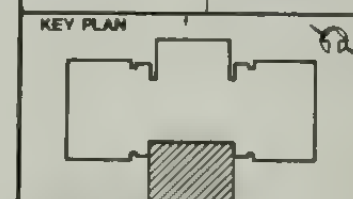
356 | 26,002 / 8 of 70
DSC | JUL 88

MAIN BUILDING ELLIS ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

REVISIONS

| NO. | DATE | DESCRIPTION |
|-----|--------|--------------|
| 1 | 1-9-84 | DESIGNED: |
| 2 | | DRAWN: |
| 3 | | TECH REVIEW: |



TITLE OF SHEET FIRST FLOOR PLAN CANOPY AREA

SUB SHEET NO. DRAWING NO.

HU-5
PKG. NO. SHEET
OF

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

ROBERT SILMAN ASSOCIATES, P.C.

SYSKA & HENNESSY INC.

BRUCE KELLY

LOCKWOOD KESSLER BARTLETT

PROFESSOR FRANK MATERO

| | |
|-----|------------------|
| 356 | 26,002 / 9 of 70 |
| DSC | JUL 88 |

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**

[illegible]

| | |
|-----------|-----------------|
| DESIGNED: | DATE: 1-9-84 |
| DRAWN: | TECH REVIEW: |

TITLE OF SHEET
SECOND FLOOR PLAN
WEST WING

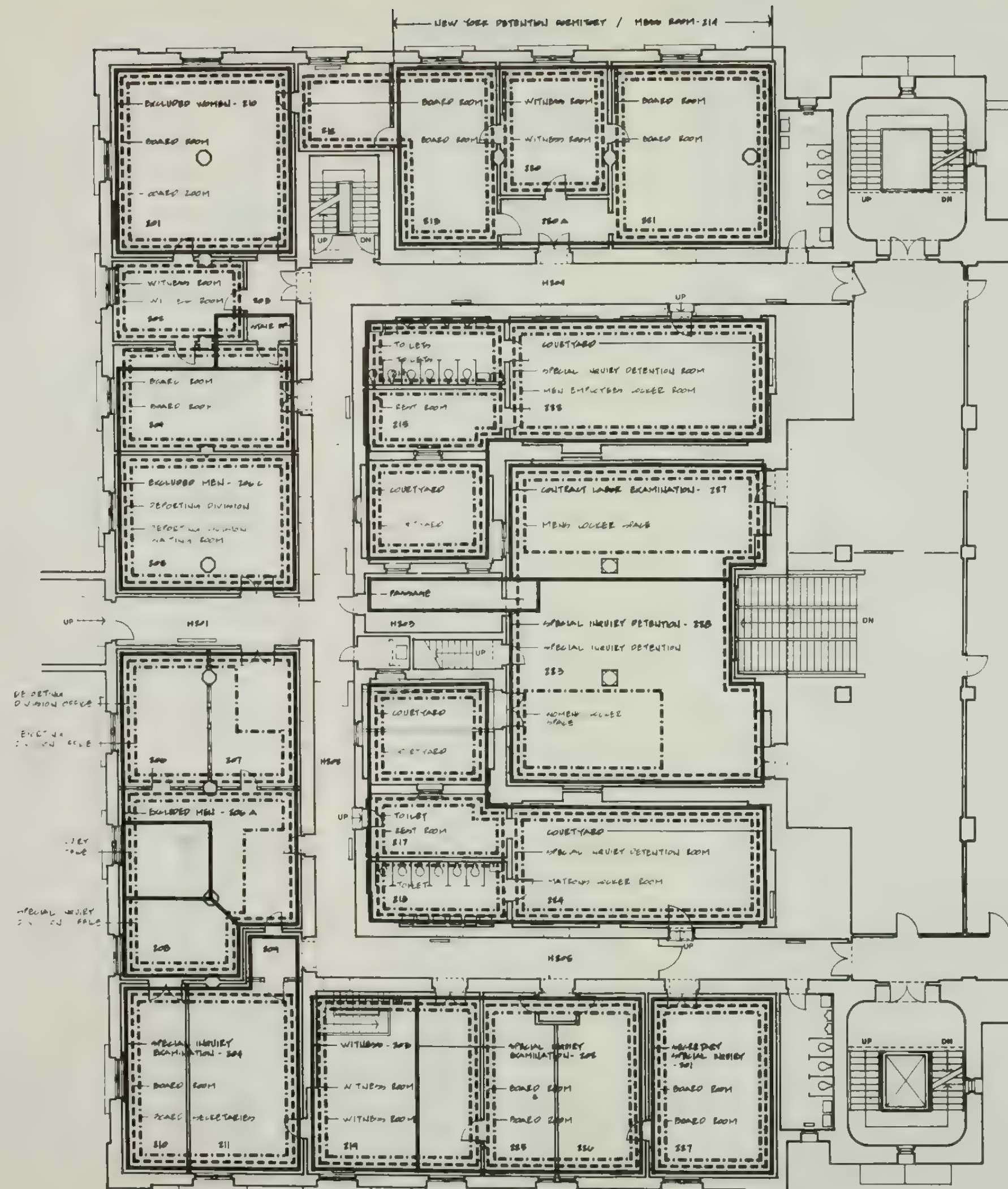
| | |
|---------------|-------------|
| SUB SHEET NO. | DRAWING NO. |
|---------------|-------------|

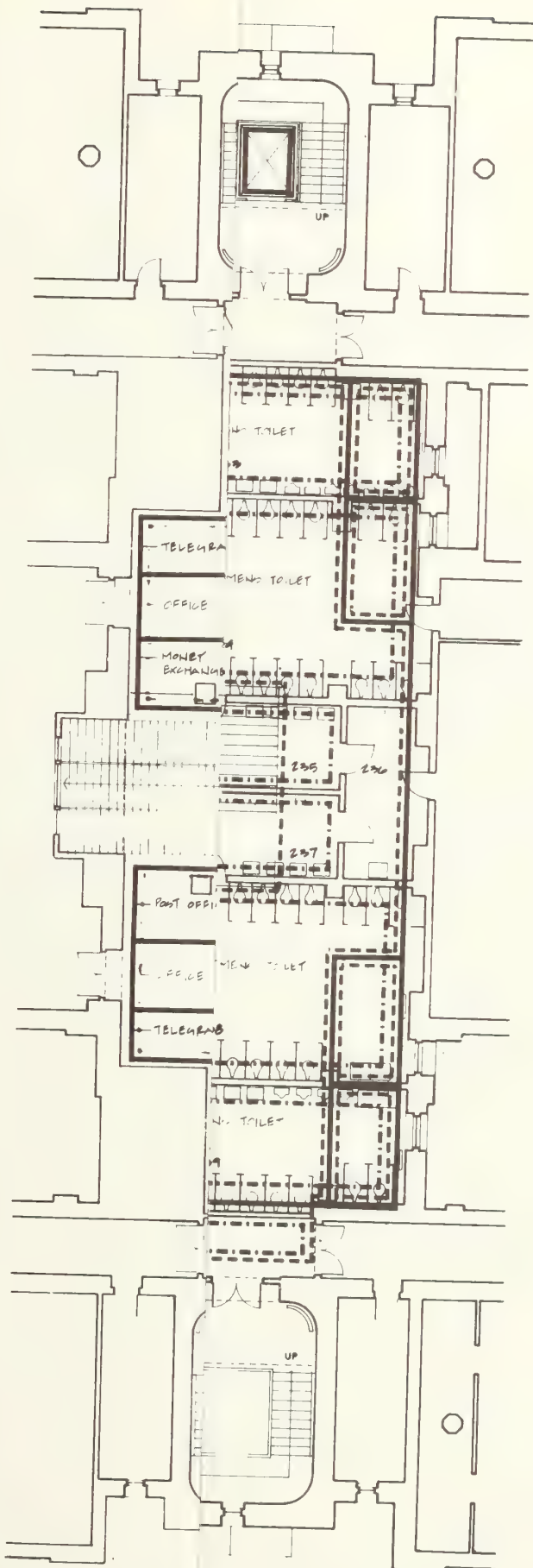
HU-6

PKG.
NO. _____

1900 - 1906 _____
1907 - 1923 _____
1924 - 1939 _____
1940 - 1954 _____

1900 - 1906 _____
1907 - 1923 _____
1924 - 1939 _____
1940 - 1954 _____





UNITED STATES DEPARTMENT
OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 10 of 70 |
| DSC | JUL 88 |

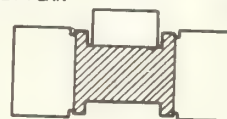
**MAIN
BUILDING
ELLIS
ISLAND**

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| | | | | |
|----|----|-----------|------|-----|
| mk | sh | REVISIONS | date | int |
|----|----|-----------|------|-----|

| | |
|-----------|-----------------|
| DESIGNED: | DATE: 1-9-84 |
| DRAWN: | TECH REVIEW: |

KEY PLAN



TITLE OF SHEET
**SECOND FLOOR PLAN
CENTER**

| | |
|---------------|-------------|
| SUB SHEET NO. | DRAWING NO. |
|---------------|-------------|

HU-7

| | |
|-------------|-------|
| PKG. NO. | SHEET |
| — | — |
| — | — |
| — | OF — |

ARCHITECTS

BEVER BLINDER BELLE /
ANDERSON NOTTEN FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3880

STRUCTURAL ENGINEERS

ROBERT BELMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KEBBLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 10 of 70
DSC | JUL 88

MAIN
BUILDING
ELLIS
ISLAND

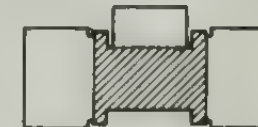
STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk shl REVISIONS date

DESIGNED: DATE: 1-9-84

DRAWN: TECH REVIEW:

KEY PLAN



TITLE OF SHEET

SECOND FLOOR PLAN
CENTER

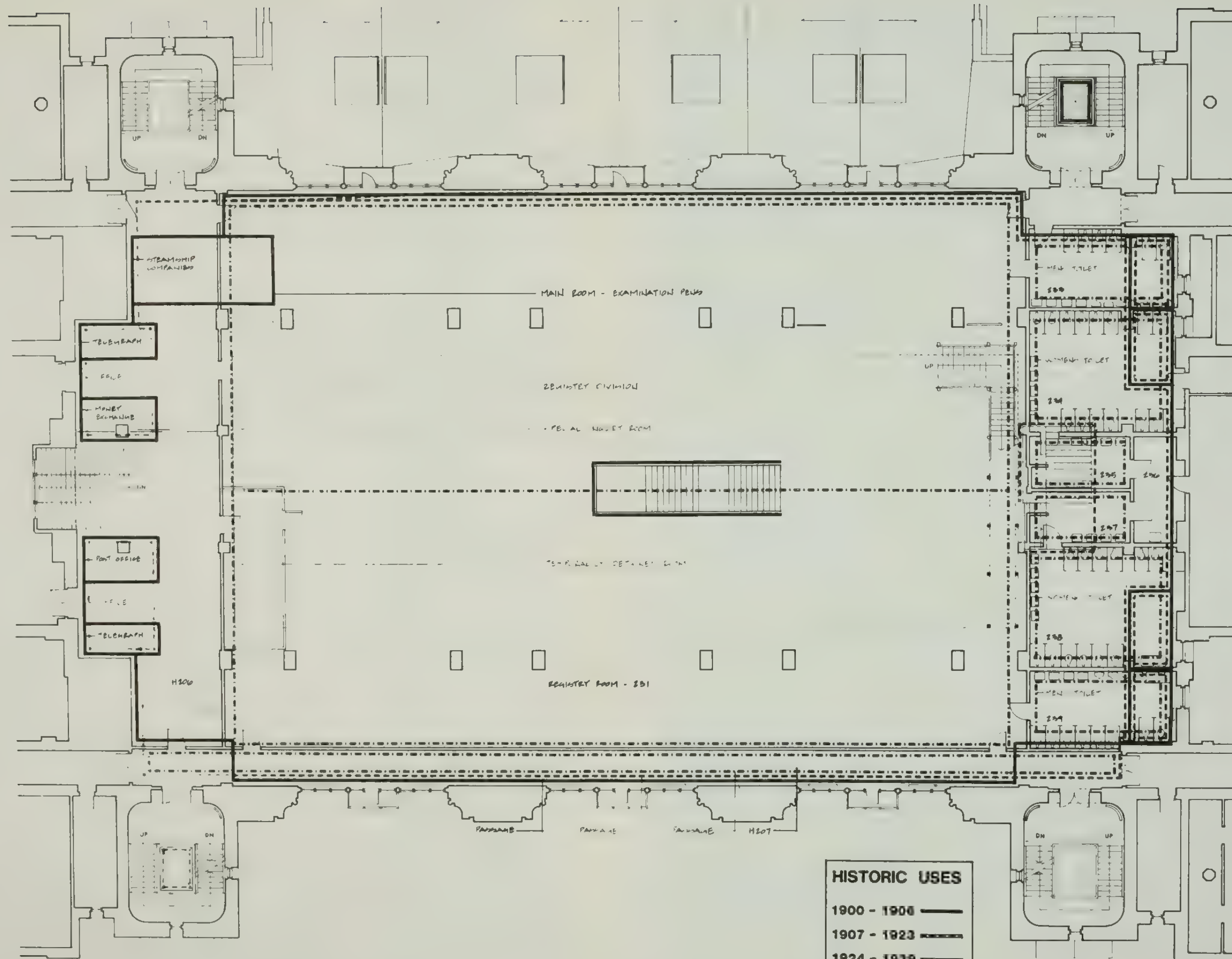
SUB SHEET NO.

HU-7

DRAWING NO.

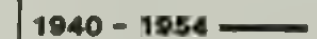
PKG. NO. SHEET

OF



| HISTORIC USES | |
|---------------|----|
| 1900 - 1906 | —— |
| 1907 - 1923 | —— |
| 1924 - 1939 | —— |
| 1940 - 1954 | —— |

PKG.
NO.



**NATIONAL PARK SERVICE
DENVER SERVICE CENTER**

**BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
60 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960**

ROBERT SELMAN ASSOCIATES, P.C.

SYSKA & HENNESSY INC.

BRUCE KELLY

LOCKWOOD KESSLER BARTLETT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 12 of 70 |
| DSC | JUL 88 |

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**

[illegible]

| | |
|-----------|-----------------|
| DESIGNED: | DATE: 1-9-84 |
| DRAWN: | TECH REVIEW: |

THIRD FLOOR PLAN WEST WING

DRAWING NO.

HU-9

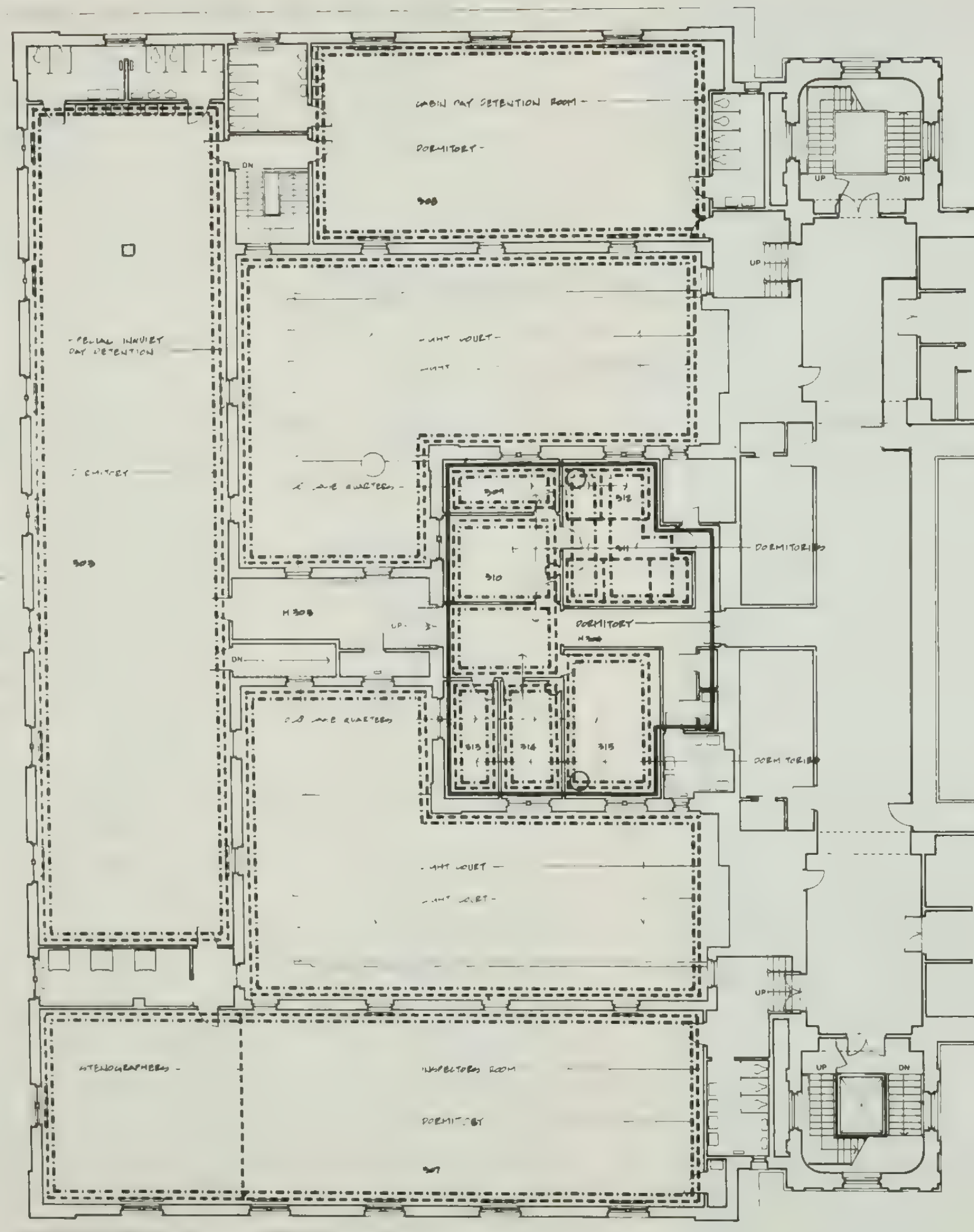
PKG.
NO. _____

1900 - 1906 —————

1907 - 1923

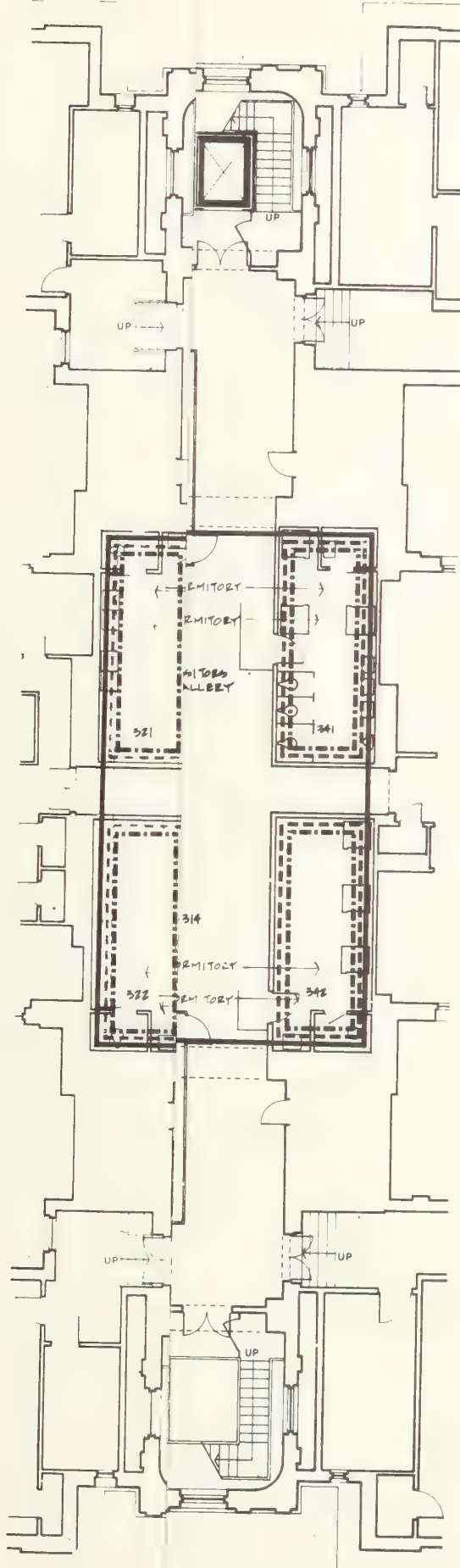
1924 - 1939 _____

1940 - 1954 _____



1940 - 1954 ———

PKG.
NO. _____



UNITED STATES DEPARTMENT
OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3880

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 13 of 70 |
| DSC | JUL 88 |

**MAIN
BUILDING
ELLIS
ISLAND**

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| | | | | |
|----|----|-----------|------|-----|
| mk | sh | REVISIONS | date | ini |
|----|----|-----------|------|-----|

DESIGNED:

DATE:

1-9-84

DRAWN:

TECH REVIEW:

KEY PLAN



TITLE OF SHEET

**THIRD FLOOR PLAN
CENTER**

SUB SHEET NO.

DRAWING NO.

HU-10

| | |
|-------------|-------|
| PKG. NO. | SHEET |
| — | — |
| — | — |
| — | — |
| — | OF — |

ARCHITECTS
BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3860

STRUCTURAL ENGINEERS
ROBERT SALMAN ASSOCIATES, P.C.

**MECHANICAL &
ELECTRICAL ENGINEERS**
SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT
BRUCE KELLY

SITE ENGINEERS
LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT
PROFESSOR FRANK MATERO

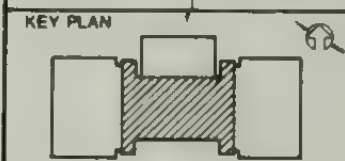
356 | 26,002 / 13 of 70
DSC | JUL 88

**MAIN
BUILDING
ELLIS
ISLAND**
STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

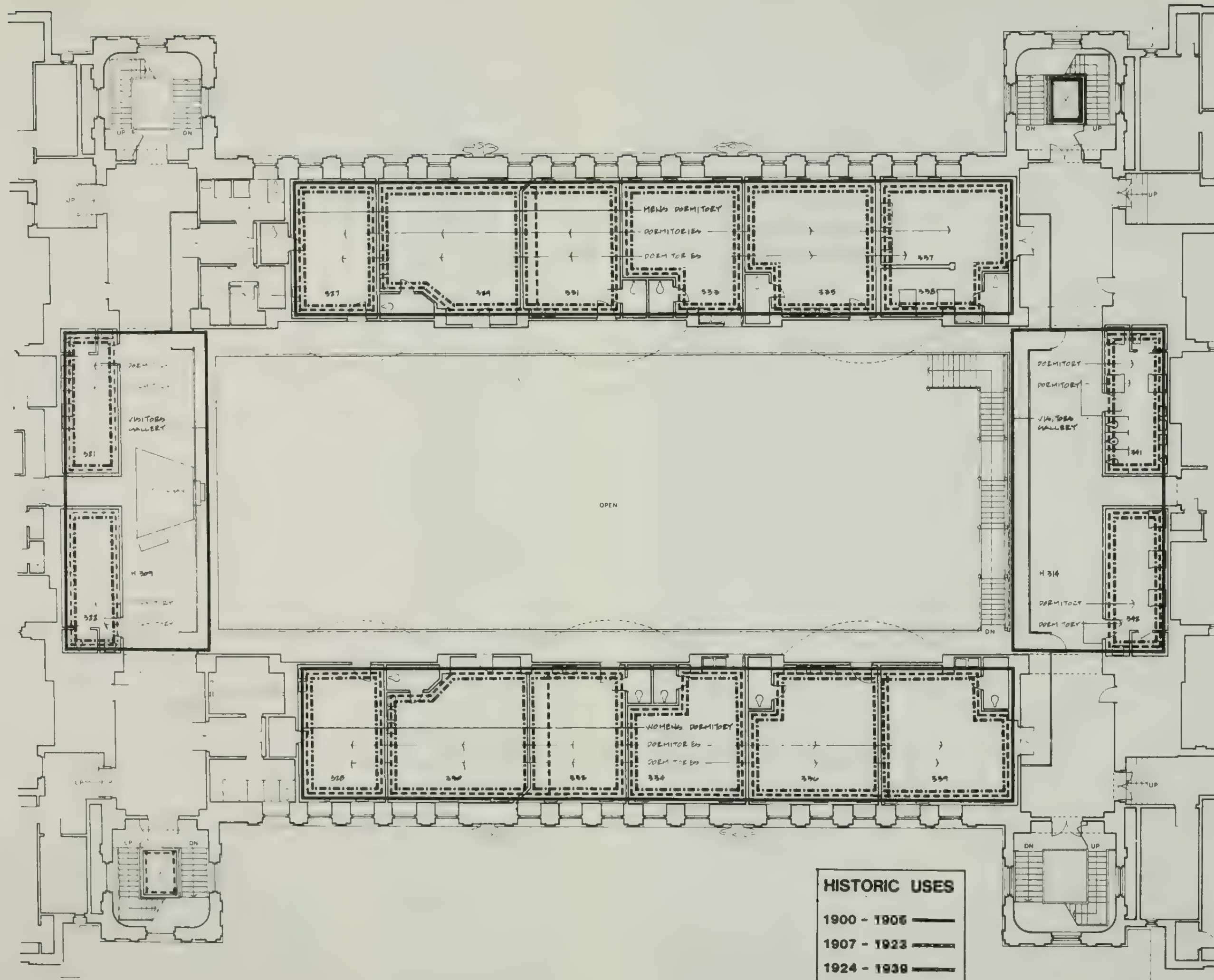
| mk | sh | REVISIONS | date | by |
|----|----|-----------|------|----|
|----|----|-----------|------|----|

| | |
|-----------|-----------------|
| DESIGNED: | DATE: 1-9-84 |
| DRAWN: | TECH REVIEW: |



TITLE OF SHEET
**THIRD FLOOR PLAN
CENTER**

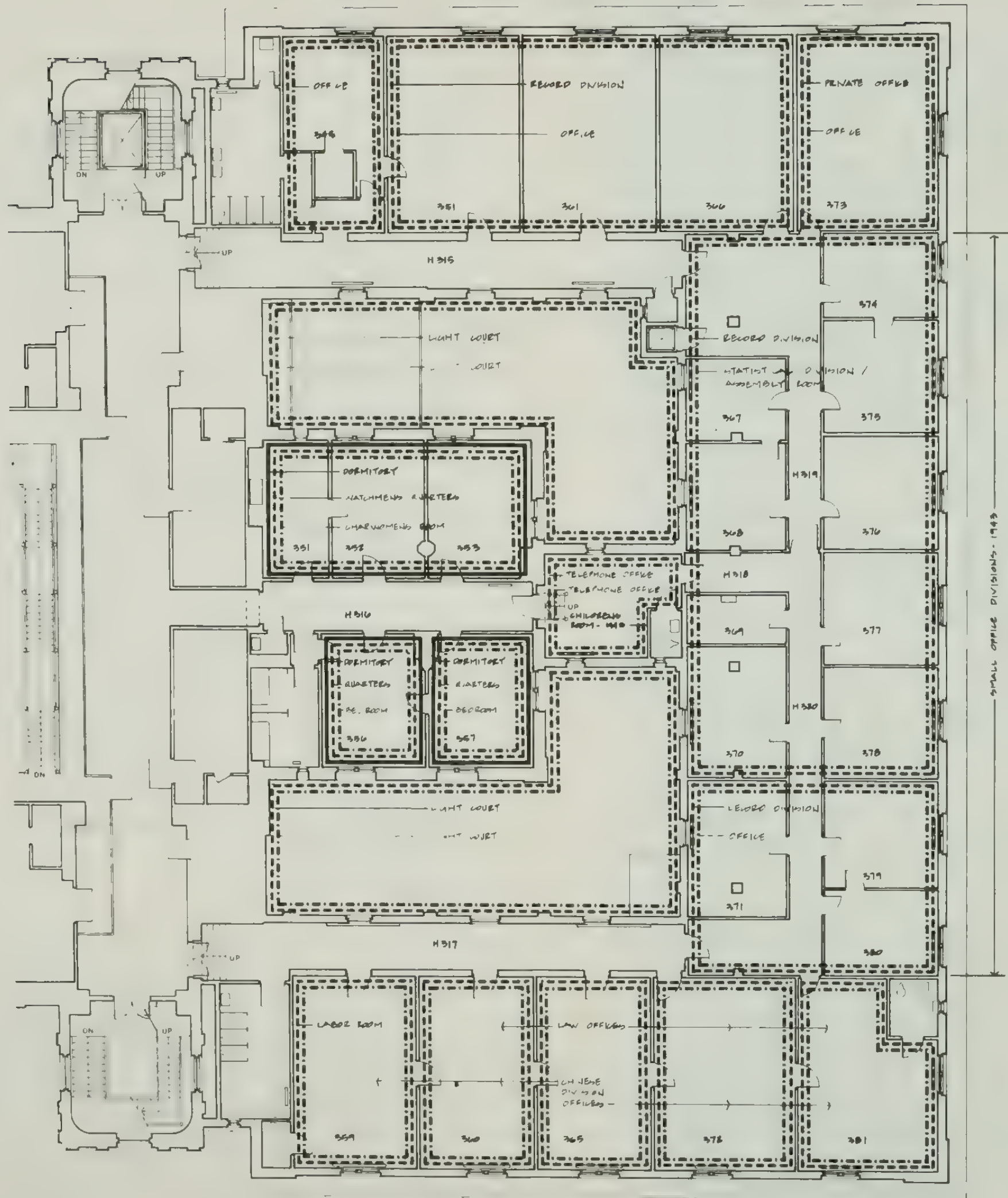
| | |
|---------------|----------------------|
| SUB SHEET NO. | DRAWING NO. |
| HU-10 | PKG. NO. SHEET OF |



HISTORIC USES

| | |
|-------------|---|
| 1900 - 1906 | — |
| 1907 - 1923 | — |
| 1924 - 1938 | — |
| 1940 - 1954 | — |

| | |
|-------------|---|
| PKG. NO. | SHEET |
| _____ | <div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div> |
| _____ | OF _____ |



HISTORIC USES

- 1900 - 1900 ———
- 1907 - 1923 ———
- 1924 - 1939 ———
- 1940 - 1954 ———

UNITED STATES DEPARTMENT
OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3860

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL & ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 14 of 70 |
| DSC | JUL 88 |

MAIN BUILDING ELLIS ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| mk | sh | REVISIONS | date |
|----|----|-----------|------|
|----|----|-----------|------|

| | |
|-----------|-----------------|
| DESIGNED: | DATE: 1-9-84 |
| DRAWN: | TECH REVIEW |

KEY PLAN



TITLE OF SHEET

THIRD FLOOR PLAN
EAST WING

| | |
|--------------|------------|
| SUB SHEET NO | DRAWING NO |
|--------------|------------|

HU-11

| | |
|-------------|-------|
| PKG. NO. | SHEET |
| — | — |
| — | — |
| — | — |

5. Historic Landscape Analysis¹

a. Historic Development of the Landscape²

The original natural expanse of Ellis Island was two to three acres depending upon the tide. It was private property during the Dutch and English eras until 1808 when it was purchased by the federal government for installation of a naval arsenal.

The island retained its original size and shape until 1890 (exhibit 1). On April 11 of that year, Congress decided to remove the naval arsenal and use Ellis Island as the New York immigration station. To accommodate the new function the island was enlarged from its original two to three acres to an 11.07-acre angular island surrounded by a cribbing bulkhead. As part of the layout of the island a boat basin was established by building a breakwater southwest of the island shoreline. This boat basin, which remains today, is the oldest physical feature and configuration at Ellis Island (exhibit 2). In 1896, additional landfill on the northern and eastern sides of the island added the point and increased the island to 14.20 acres.

In 1897 a fire destroyed most of the wooden buildings on the island. Later in the year a new

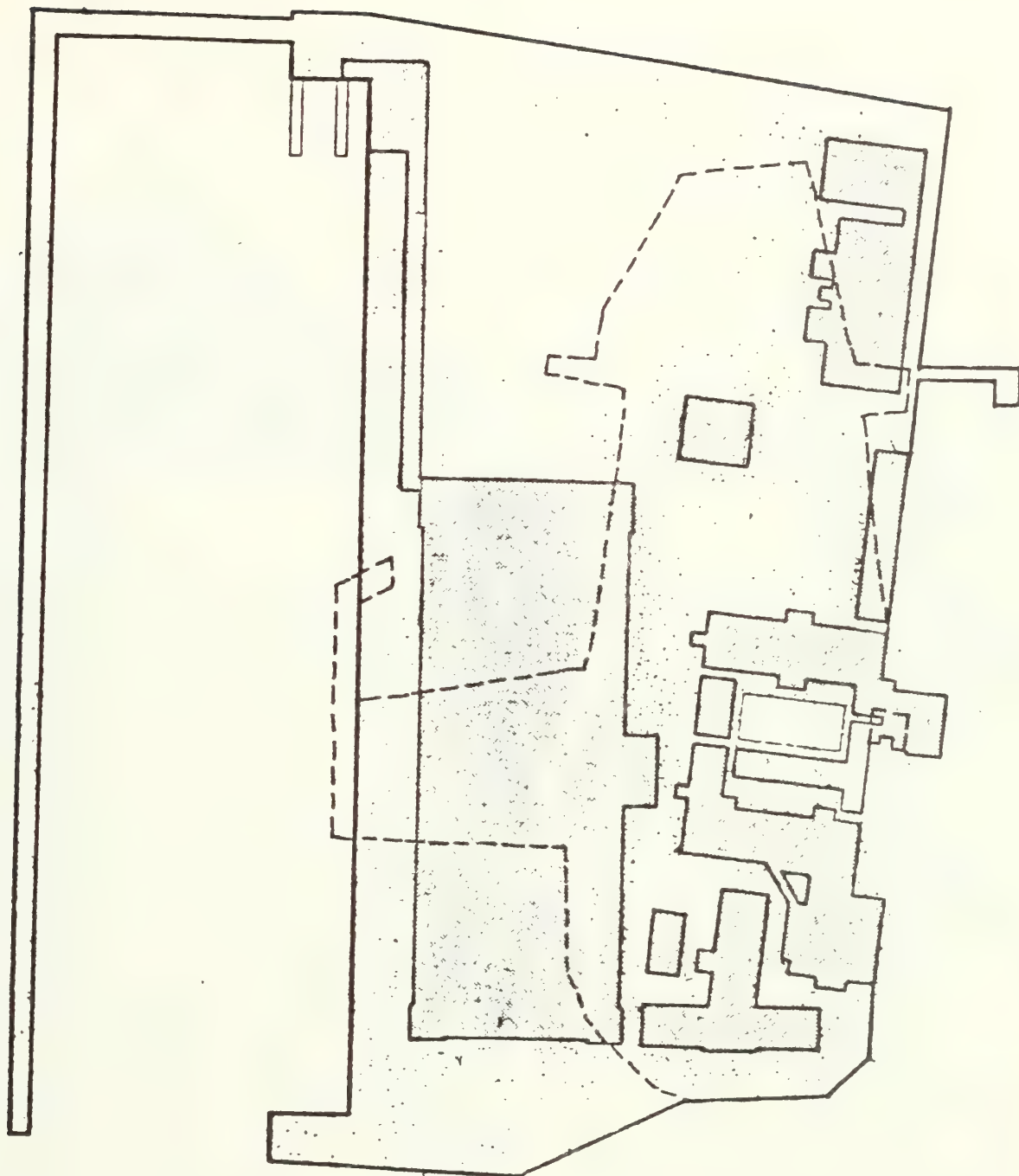
¹Bruce Kelly, landscape architect, author, 1984.

²The following two sections are based on archival drawings, specifications, documents, and photographs. In addition, secondary sources were consulted; U.S. Department of the Interior, National Park Service, Denver Service Center, "Historic Structure Report; Ellis Island; Historical Data", by Harlan D. Unrau, 1981, was particularly useful.



Naval Arsenal
Original Island 3.3 Acres

Source: N.P.S.
Ehrenkrantz
Drawing #462/28001



892

**Original Immigrant Station
(destroyed by fire 1897)**



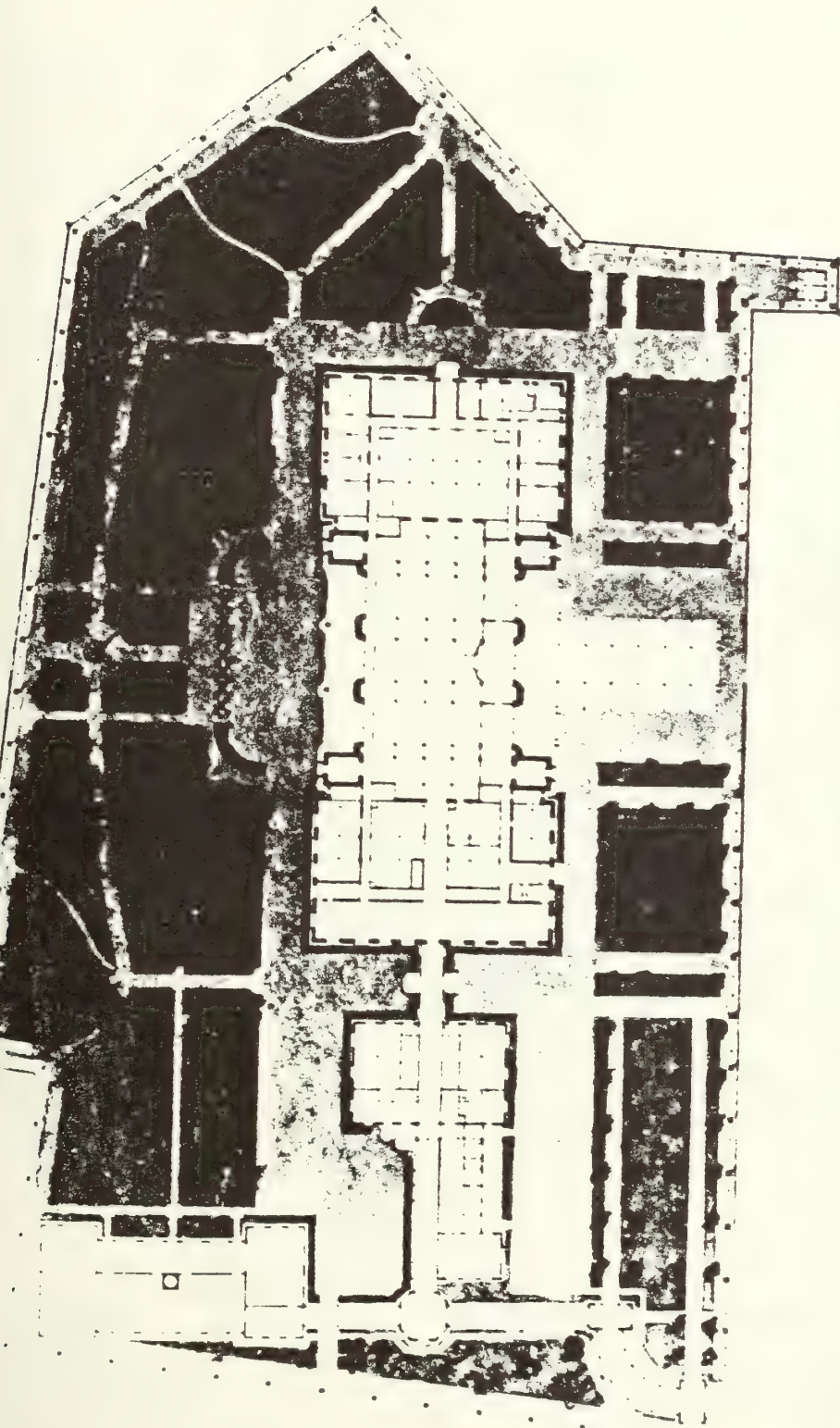
Source: Bldg. Layout-
N.P.S.
Ehrenkrantz
Drawing #462/28001

Island Layout-
N.P.S.
Historical Development Plan
Drawing #396/20019

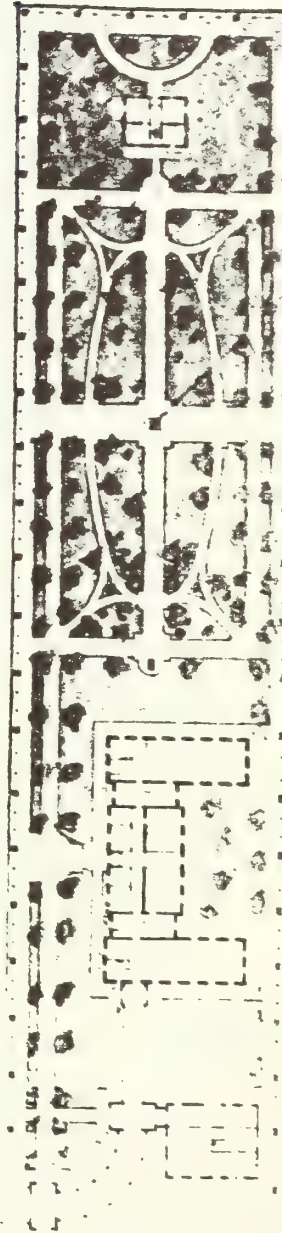
immigration facility was designed by the New York architectural firm of Boring & Tilton. The new design called for an ample ornamental landscape designed in a Beaux Arts style of symmetrical walks lined with allees of trees (exhibit 3). In addition, the construction of a second island southwest of the boat basin (for a hospital complex) was planned. Although the Boring & Tilton landscape design was never implemented, in 1899 island 2, an additional 3.31 acres, was built for a hospital complex. The new immigration station on island 1 opened on December 17, 1900. The hospital complex structures on island 2 opened in 1902.

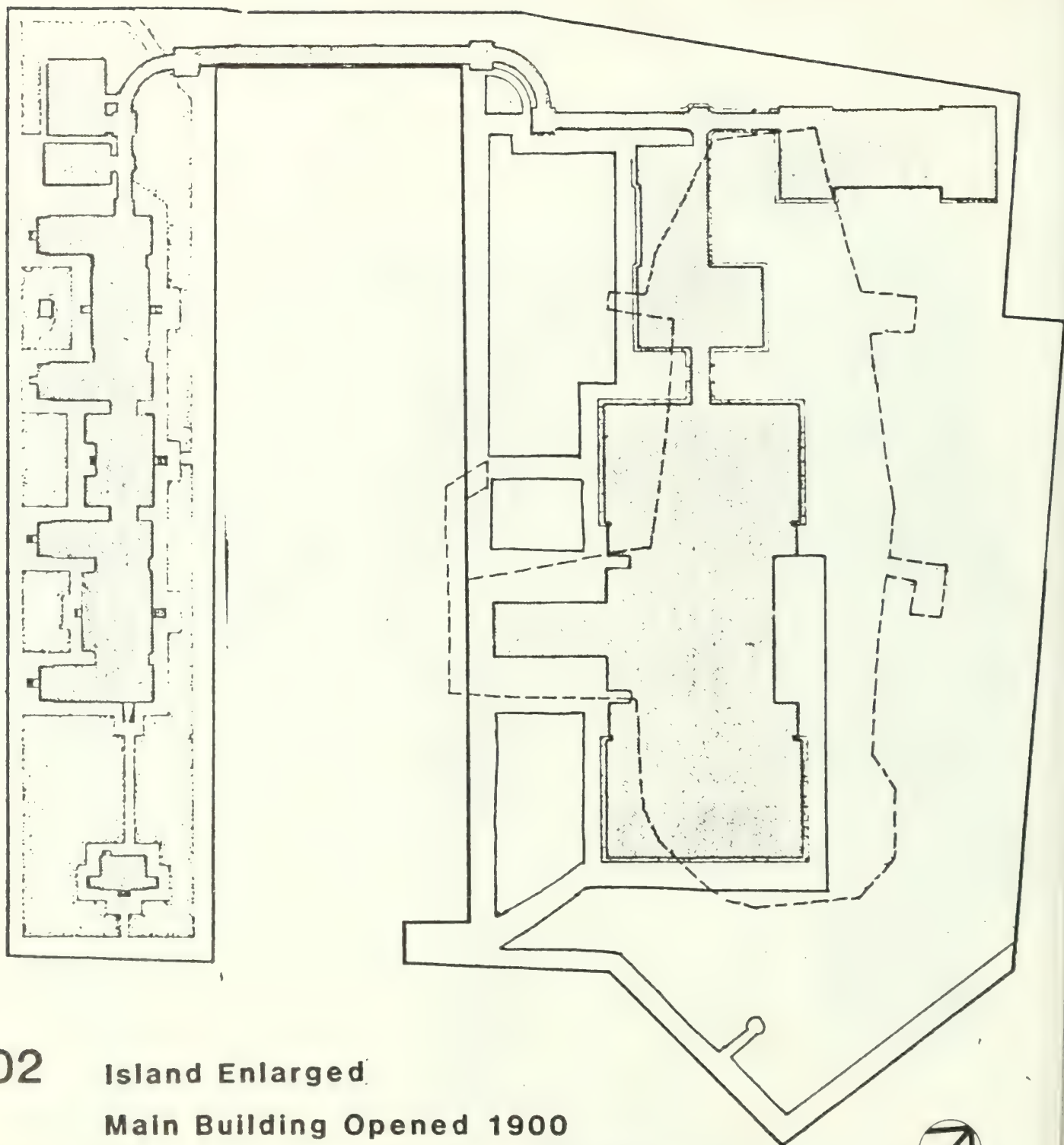
A permanent landscape was not constructed for the newly extended island with its immigration station until 1902 (exhibit 4). That year the construction debris was removed and the landscape was dressed with 7,000 yards of loam. Scored concrete walks were laid out in front of the kitchen and laundry building and the main building. The walk extended around the side of the main building and connected to the rear door. The rear walk was demolished in 1904 when the railroad ticket office was built. This concrete apron adjacent to the structures was connected to a boardwalk along the boat basin and the eastern point of the island by similar scored concrete walks: one from the front door of the west wing; one from the southeastern corner of the main building to the southeastern corner of the island; and a plaza space between the central door and the boardwalk where a new canopy was being constructed. The remaining landscape spaces were surrounded by 1,500 linear feet of California privet hedges and planted in lawn. The New York Times, on July 12, 1903, described the new landscape. The island had been

"divided into neat squares and crescents, in which grow blue grass, and around which a



GENERAL PLAN
OF
UNITED STATES IMMIGRANT STATION
FEDERAL NEW YORK HARBOUR
JAMES E. KELCEY ARCHT. CO.





1902

Island Enlarged

Main Building Opened 1900

**2nd Island and Hospital Complex
Opened in 1902**

Source: Bldg. Layout-

Block Plan 1913

Drawing #356/2006

Island Layout-

N.P.S.

Historical Development Plan

Drawing #356/20019

Bldg. Development

"Chronology of Immigration,
Legislation, and the Ellis
Island Immigration Station
During the 19th and
20th Centuries."

hedging of California privet is rapidly assuming substantial dimensions. Then again in the squares and crescents geraniums, nasturtiums, palms, pansies, and ferns, arranged in neat figures, have been planted, and as they are beginning to bloom, the front of the island as seen from passing ferryboats and other craft makes a very pleasing sight, and one that is sure to cause comment by people who are familiar with the way the place looked before the Williams era.

Then again, on either side of the main entrances of the various buildings big iron vases of granite have been placed, and palms, and various flowers planted in them. But the great attraction is the beautiful entrance (of the main building) from the barge landing. This entrance is constructed entirely of iron, the pillars being fancy in shape, while the roof is of glass. Within this arcade, which extends almost clear to the water front, have been placed a lot of neat park benches for the use of visitors, where, seated in the shade, and where they are almost sure to get the benefit at any time of day of a good sea breeze, the view of the city beyond and the harbor is an ideal one."³

The Williams era landscape, circa 1902-1903, was primarily ceremonial and decorative in its concept although very simple. Lawns with flower beds were surrounded by hedges. The lawn areas had 36-inch high fences of wooden posts connected with three rows of twisted wire to assure that the lawns with their bedding of annuals were not trampled by users (photos 1 and 2). Some functional user amenities were provided. The concrete apron and the plaza area had benches for visitors to use, and the boardwalk in front of the main building and around the point was lit with shepherds crook lamps to facilitate night use.

³New York Times, July 12, 1903.



1. Lawn and hedges, east wing of the main building, ca. 1903, photographer unknown. William Williams Collection No. 36. New York Public Library, Local History and Genealogy Division.



2. "Lawns and Hedges after one year's growth" ca. 1903, photographer unknown. William Williams Collection No. 41. New York Public Library, Local History and Genealogy Division.

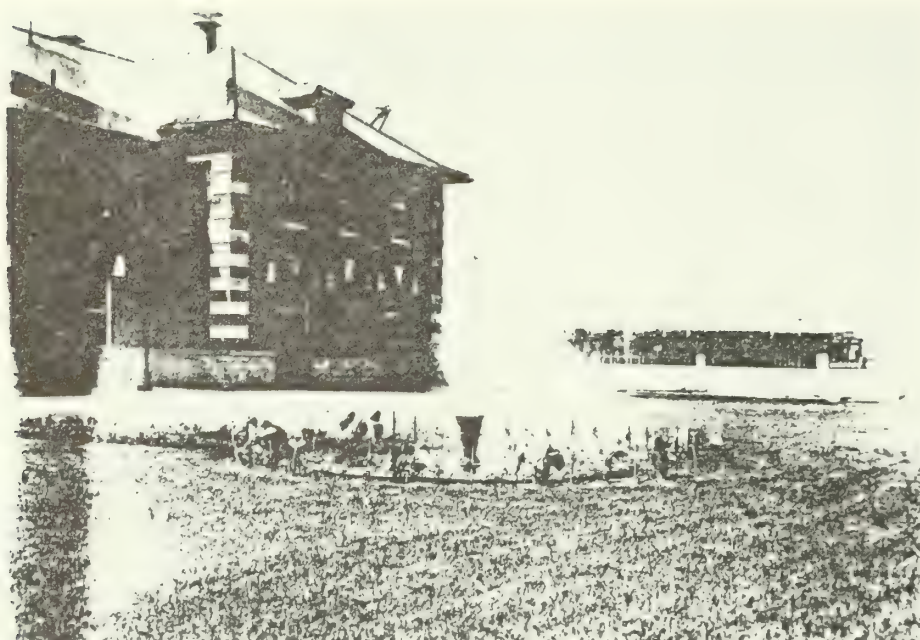
Another decorative element in the landscape during this era was the spray fountain and pool with hydrophyllic plantings which were located to the east side of the power house (photo 3).

A third island was landfilled for a contagious disease hospital during 1905-06. The new island of 4.75 acres, located southwest of island 2, was separated by a boat basin, similar in size to the one between islands 1 and 2, and connected to island 2 by a wooden gangway. The entire Ellis Island complex had, by this time, reached 20.27 acres.

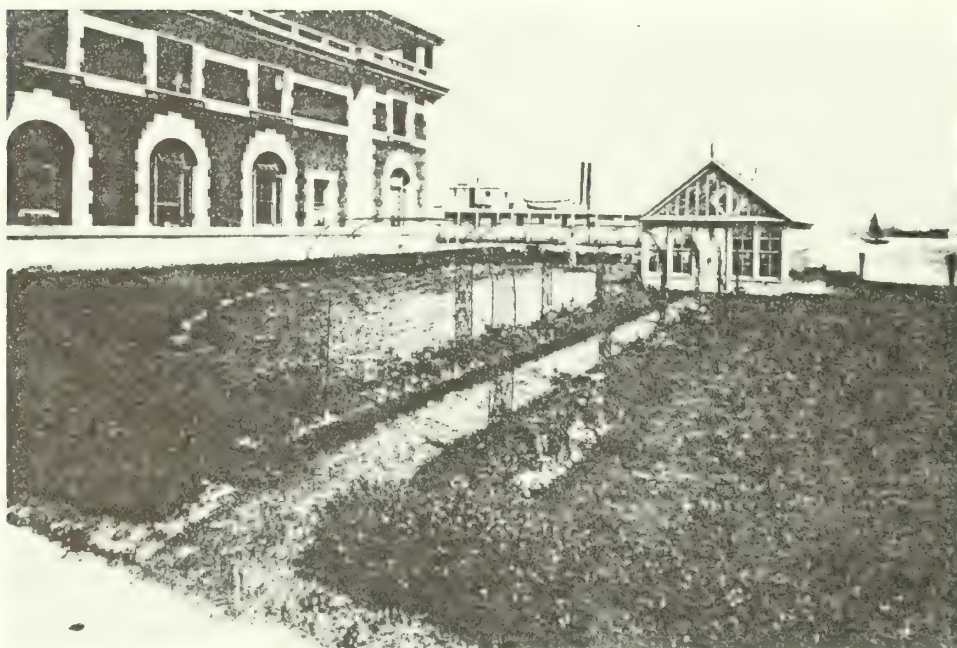
The baggage and dormitory building on island 1 was constructed in 1908-09. The hospital and administrative buildings on island 3 were completed in the same year.

The boardwalk along the boat slip in front of the main building was rebuilt by 1909. The earlier boardwalk planking ran parallel to the bulkhead while the new planking was perpendicular to the bulkhead.

In 1911 a greenhouse was built directly behind the main building on a concrete slab left from a razed temporary wooden barracks. The greenhouse seemed to have given impetus to a number of floricultural improvements of the island by providing a propagating house for numerous flower beds. In the immediate vicinity of the greenhouse, flowers were grown. Shrub roses were arranged in a semicircular bed adjacent to the dormitory building and along a cinder path leading to the greenhouse. Climbing roses grew on a series of five freestanding arched trellises which ran along the path (photo 4). A star-shaped flower bed with a scalloped flower background was put in a planting bed corner outside



3. Spray fountain and pool, east side of powerhouse, 1902-05, photographer unknown. William Williams Collection No. 38. New York Public Library, Local History and Genealogy Division.



4. Free standing trellises along path to the greenhouse, 1909-12, Edwin Levick, photographer. William Williams Collection No. 10. New York Public Library, Local History and Genealogy Division.

the corridor connecting the kitchen and laundry building to the ferry house. This bed was planted with begonias and lawn grass and surrounded by hoop trip fencing. The walls of the covered way were covered with a vine, probably Virginia creeper (photo 5). Both the kitchen and laundry building and the entrance to the main building were decorated with boxes of flowers. The kitchen and laundry building was covered with a vine, again probably Virginia creeper. On island 2 between the surgeon's house and the hospital complex, a tennis court faced with a pergola was decorated with vines and edged with annual flowers. A circular bed slightly towards the boat slip was also planted in annuals (photo 6).

In 1911, a disinfecting plant with a concrete deck, a garbage crematory and concrete dock was built. Wooden barracks and debris were removed from the north side of island 1, and the landscape there was regraded. The contagious disease complex was opened for use in that year and in 1912. Island 3 was graded and refuse was removed (exhibit 5).

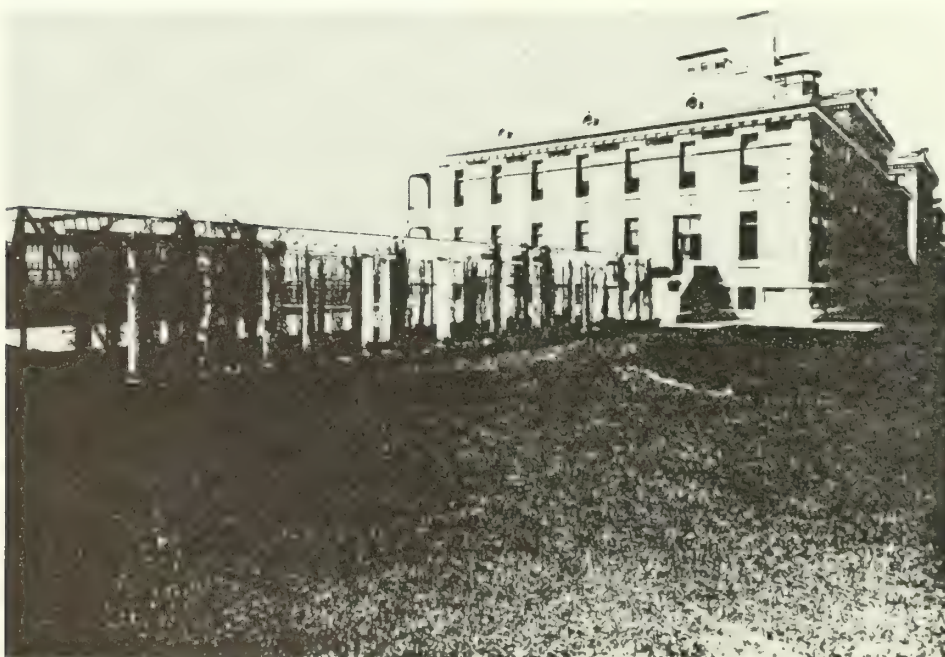
In 1913 the first section of the new concrete, granite-filled seawall was completed along the western section of the boat slip on island 1.

The bakery and carpentry shop was constructed in 1914-15.

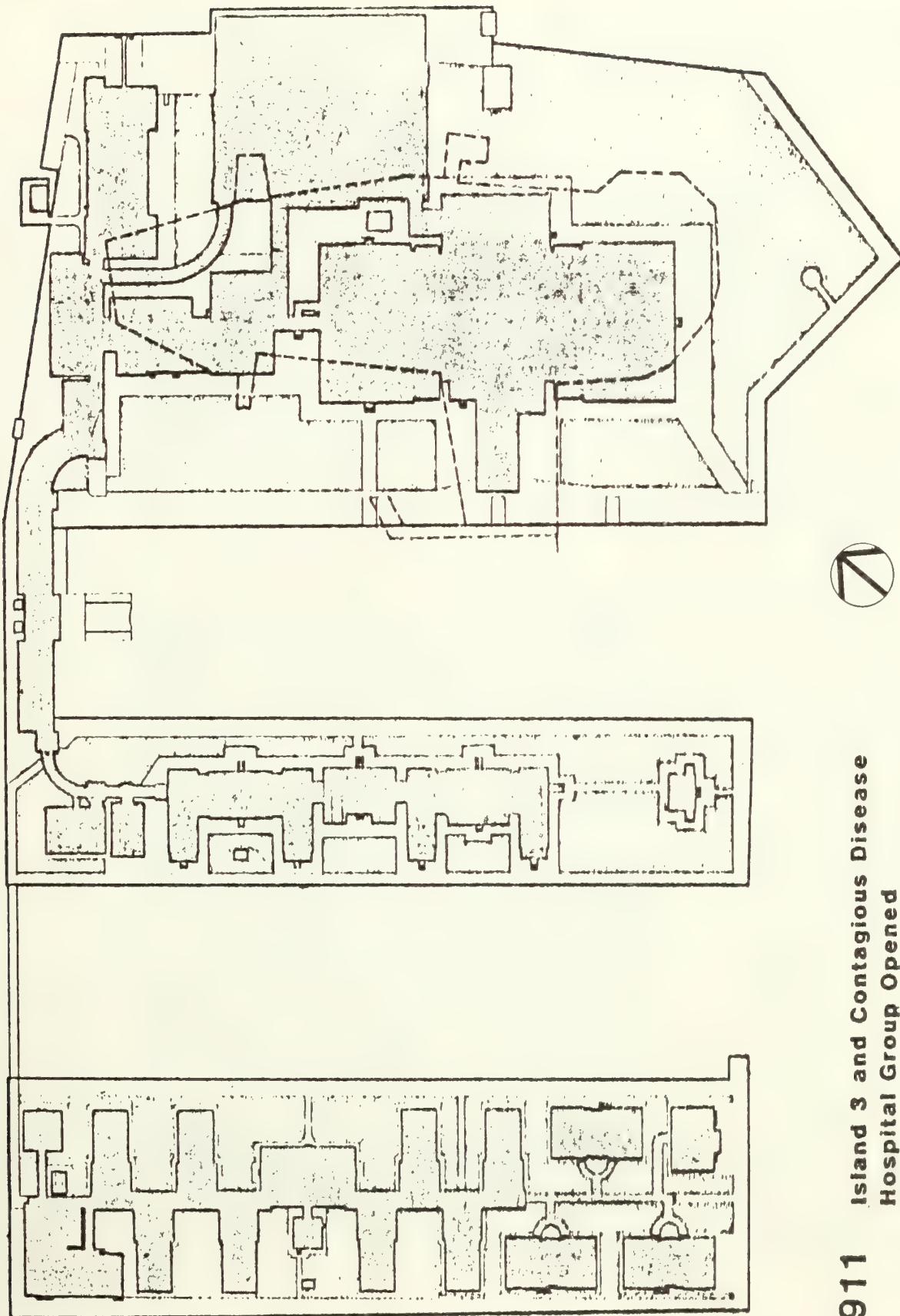
During 1915, under Commissioner Frederic C. Howe, attempts were made to provide recreation in the landscape for detainees. This included placing benches out of doors on the lawns (photo 7) and the creation of a playground for children. These improvements necessitated fencing in the detainee recreational space which was located at the corner



5. Vines on covered way, 1909-12, Edwin Levick, photographer. William Williams Collection No. 9. New York Public Library, Local History and Genealogy Division.



6. Circular bed planted in annuals, island 2, 1909-12, Edwin Levick, photographer. William Williams Collection No. 8. New York Public Library, Local History and Genealogy Division.



1911

Island 3 and Contagious Disease Hospital Group Opened

Source: Bldg. Layout-
Block Plan of 1913, Drawing #356/20006
Island Layout-
N.P.S., Historical Development Plan, Drawing #356/20119
Bldg. Development-
"Chronology of Immigration, Legislation, and the Ellis Island
Immigration Station During the 19th and 20th Centuries."

between the main building and the baggage and dormitory building.

The boardwalk adjacent to the seawall was replaced by a concrete walk (photo 8) in 1918. Also in this year, the second section of seawall was completed on the ferry basin's south side, and a covered way between islands 2 and 3 was constructed.

Construction of the new granite seawall began in 1920 and continued until 1933 as the old cribbing wall deteriorated. Landfill between islands 2 and 3 in the area that had been a boat slip also began in 1920 and continued until circa 1930 (photo 9).

The canopy fronting the main building was torn down in 1932 and the building entrance relocated to the west wing. A 40-foot planting circle was installed in the central paved plaza space, symmetrical with the building (photo 10).

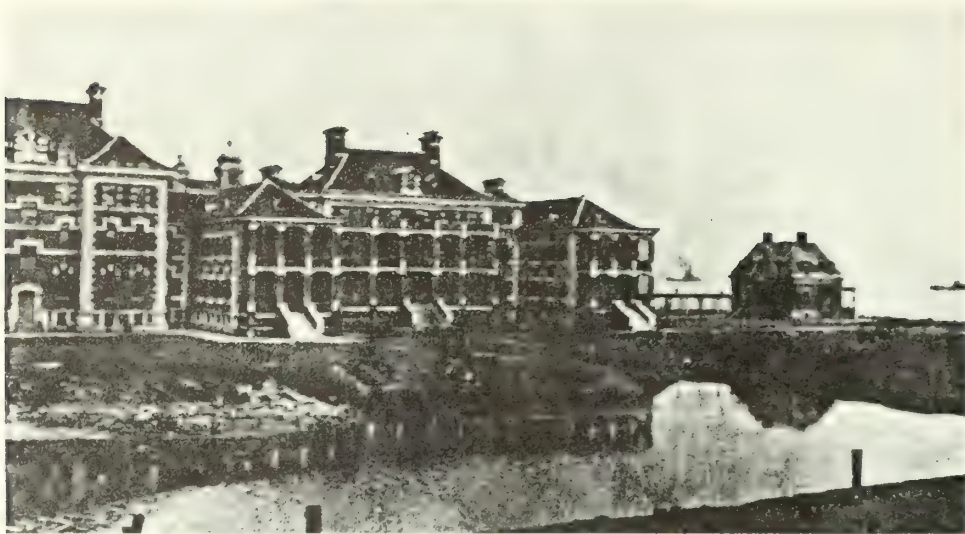
In 1934 under the New Deal's Public Works Administration, landfilling operations were undertaken to make more room for recreational activities. This added land area to the east of the main building and to either side of the intended new immigrant building. This landfill increased Ellis Island to its present size and configuration (27.5 acres). The recreation and shelter building and the pathway layout between islands 2 and 3 were also constructed in 1934 (photo 11). The new ferry building and immigration building, with its 100-foot wide fenced-in recreational spaces, were constructed in 1934-1935. In addition, new passageways were built to connect the ferry house and the new immigration building with island 1.



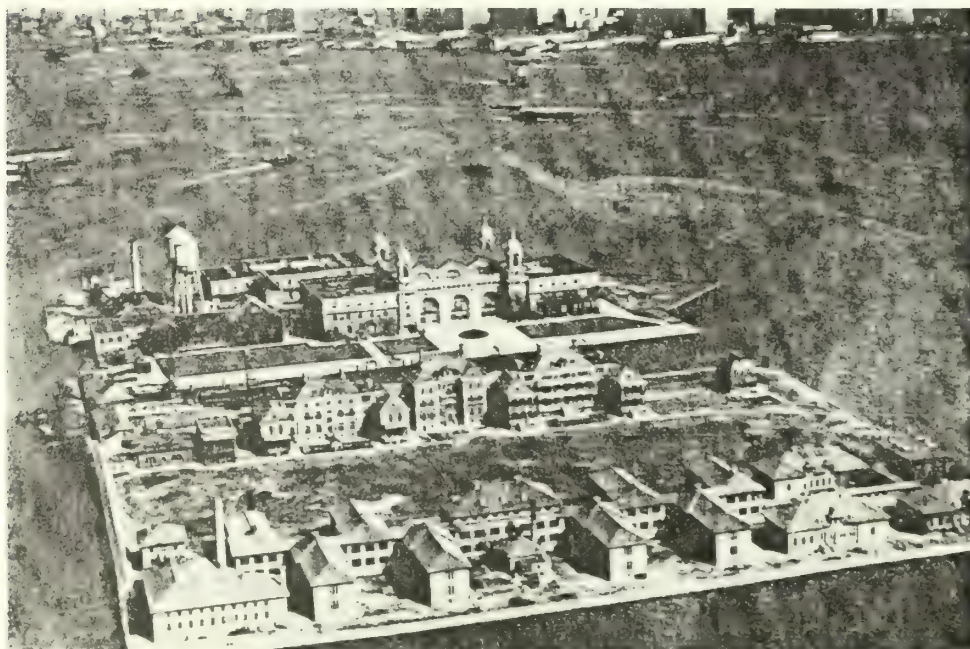
7. "Ellis Island Building; Groups of Immigrants". Powderly Papers and Photographs, Department of Archives and Manuscripts, The Catholic University of America.



8. "Boat Unloading Immigrants at Ellis Island, New York Harbor". ca. 1920. Library of Congress.



9. Rear view of hospital buildings, island 2, and partial fill between islands 2 and 3. National Archives, Audiovisual Archives Division, Still Picture Branch.

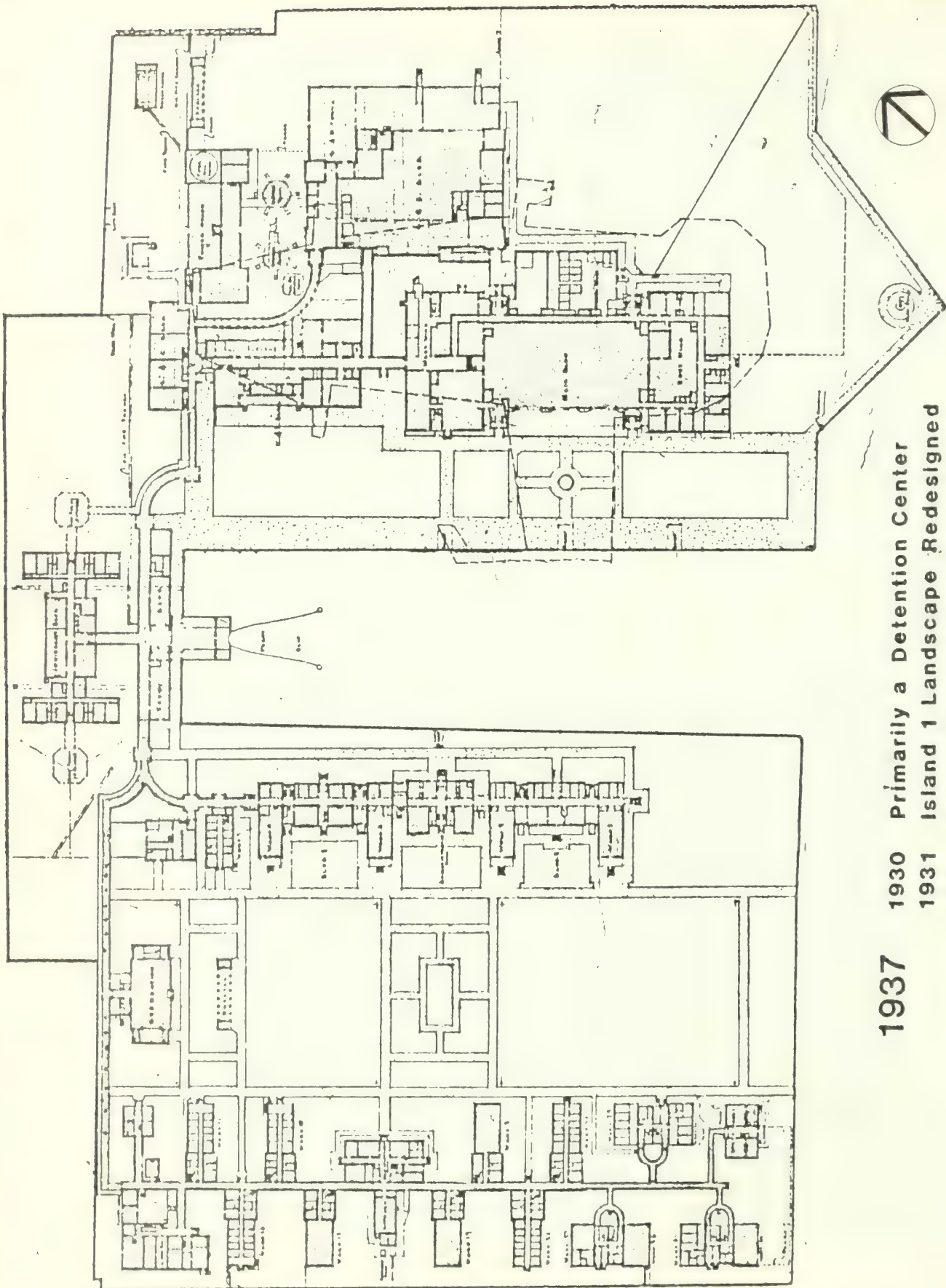


10. Aerial photograph of Ellis Island, ca. early 1930's, view towards Manhattan. National Archives, Audiovisual Archives Division, Still Picture Branch.

The water towers between the powerhouse and the dormitory building were also installed in 1929-30.

The original concrete walk system, serving all sides of the main building, was removed during 1936 and 1937. It was partially reconstructed in a different layout to respond to the new use of the main building as a detention center. The walk layout in front of the kitchen and laundry building and the adjacent west wing of the main building remained as built in the 1902 layout. The area directly in front of the central and eastern sections of the main building were redesigned. In front of the former front door, a quadraform parterre-like layout of lawn areas with a central round planting bed replaced the 40-foot circular bed which had been installed in 1931. A walk along the side of the main building was totally removed and a walk/apron along the north side of the main building, ticket office, and the dormitory building was replaced by a narrower walk, allowing a planting space between the buildings and the walk. The existing hedges were left, and a row of poplars was added along the walk adjacent to the boat slip. It was proposed at this time to build a concrete walk adjacent to the seawall around the landscaped "point". If this section was built, it was totally demolished during seawall reconstruction since 1975 (exhibit 6).

In 1939 a planting plan was developed for the entire island. This plan reflected a change in focus from the main building to the side of the new immigration building. This design called for the London plane trees, *Platanus occidentalis* (*Platanus acerifolia* was actually planted), which are still extant. These trees are typical of New York plantings of this era and are also seen on Liberty Island and at Battery Park. The 1939 plan also called for numerous



1937

- 1930 Primarily a Detention Center
- 1931 Island 1 Landscape Redesigned
- 1933 Landfill Between Islands 2 and 3 Completed
- 1934 WPA Landfill for Recreation Completed on Island 1 and Behind Ferry Building

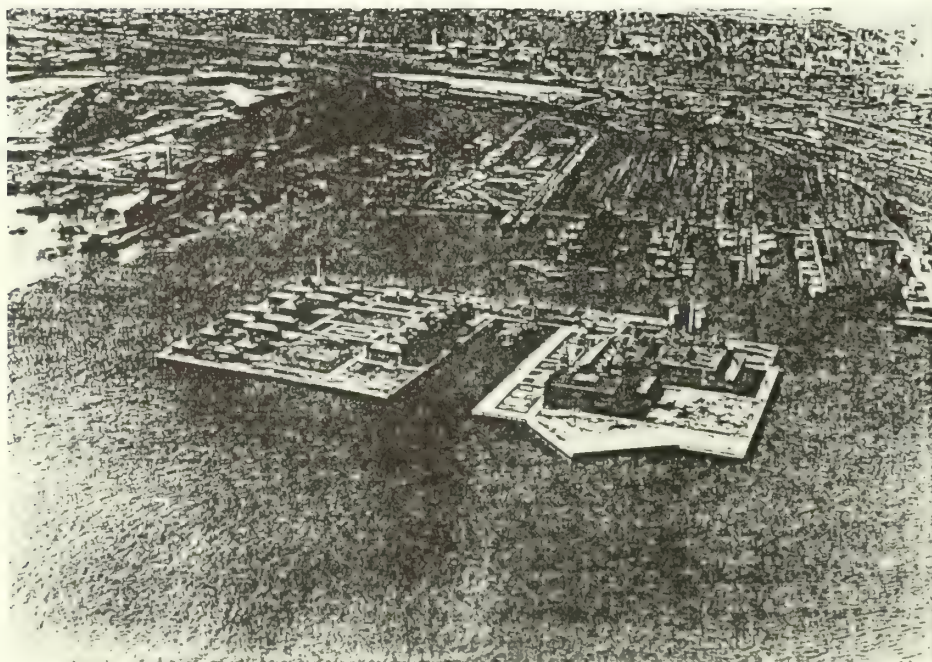
shrubs which are not identified, but probably included *Taxus* species, *Forsythia suspensa*, and *Ligustrum* species. These species are still on the island, primarily on island 2. The plan also shows numerous trees which are not extant. These trees occurred on the plan in areas open to northwesterly winter winds. They were probably susceptible to microclimatic conditions, if they were ever planted. This 1939 plan also shows the area around the main building divided into fenced-off exercise yards and a flagpole located at "the point" to the east which still exists. The planting plan was not implemented until after 1940, as indicated by an aerial photograph of the island dated 4/4/40 from the National Archives (photo 12).

The Coast Guard took over the new immigration station at the end of the boat slip, preempting the WPA design for that area which had called for a playground to the north of the new station and a garden to the south. Consequently, a landscape design has never actually been executed in this area. There are few indications of how the Coast Guard used the landscape. On the south side of the new immigration station, privet hedges, now overgrown, once defined a walk. On the north side there is a flagpole base that says, "Coast Guard 1940".

After 1940 chain link fences were installed for detention purposes; a double row was erected in front of the main building, and a single row around the rear of the main building and the east side of the baggage and dormitory building. A chain link baseball backstop was also built at this time, near the 1937 concrete walk located where the main building and dormitory building meet. Except for these elements this area at Ellis Island, like the area around the new immigrant building, never received a planned landscape



11. Recreation and shelter building and pathway layout between islands 2 and 3, February 26, 1937. National Archives, Audiovisual Archives Division, Still Picture Branch.



12. Aerial view of Ellis Island, looking towards New Jersey. Received 4/4/40 from Mitchel Field, N.Y. National Archives, Audiovisual Archives Division, Still Picture Branch.

design. It appears that the area was never dressed with nutritionally viable soil.

After 1954 the island was neglected. Groves of self-seeding birches and ailanthus trees have overrun island 2. Island 1 has given growth to ailanthus trees as well, particularly between the powerhouse and baggage and dormitory building.

Few if any man-made changes occurred in the landscape until the National Park Service implemented a visitor use program in 1975. The most obvious change in the landscape of this era is the wood post/pipe rail fencing for crowd control at the boat slip. A comprehensive rebuilding of the seawall is still underway.

b. A Short History of the User in the Landscape

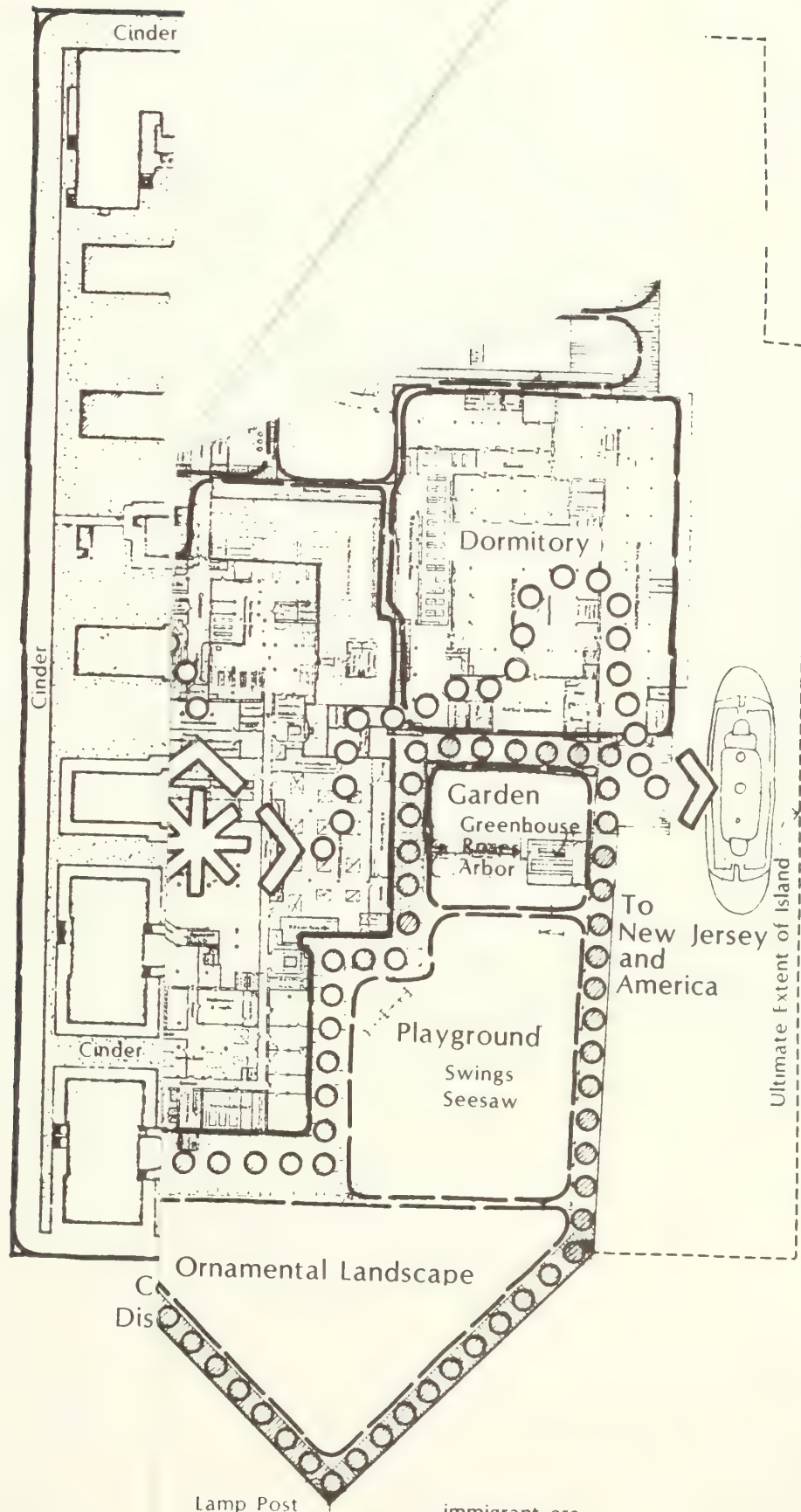
Nothing is known about the way the first immigrants to Ellis Island used the landscape between 1892 and 1897. Since space was scarce, there was probably very little landscape development beyond what was essential for boat docking, service, and circulation between buildings.

A few years later, Boring and Tilton's master plan for the island, proposed a very ambitious landscape layout. However, this was never executed. Their design, typical of the Beaux Arts "city beautiful" movement, suggested that the landscape user (immigrant and immigration station employee) would move through the outdoors in a formal way. A walk around the perimeter of the island recognized the reality that people will move to the water's edge; large paved plaza areas were provided at the front and rear of the main building and the kitchen and laundry building, and a ceremonial space was provided for a flagpole location.

Boring and Tilton's landscape design was typical of its period in not providing particularly humanistic elements. This is in contrast to the preceding Olmstedian era of landscape design which advocated socially conscious naturalistic alternatives to urban dwelling. It is also different than the succeeding "reform" park era during which New Yorkers like Jacob Riis championed active recreational landscapes.

A somewhat similar version of the Boring and Tilton design, with less formality, a much simpler geometric layout, and fewer walks, was built in 1902. Since most immigrants passed through Ellis Island quickly, they probably had very little contact with the landscape other than passing from boats or the ferry to the main building. From there the immigrant went to the ferry slip or bulkhead to go to New York or left by way of a north exit to the train station in New Jersey. From early photographs it is evident that the front plaza space around the canopy functioned as a place where immigrants gathered, waiting for their turn to be processed (for similar usage analysis see exhibit 7).

Other than the direct circulation routes and the front plaza waiting space, the landscape the immigrant saw was purely an ornamental setting for the building. The impression the landscape imparted, with its neat clipped hedges and lawns, without trees for shade and few benches for sitting, was one of efficiency and official business rather than a human scale place to linger. The views toward New York would have been an impressive first look at America, although it is likely that these views were primarily enjoyed by employees of Ellis Island and visitors from the mainland rather than the immigrants.



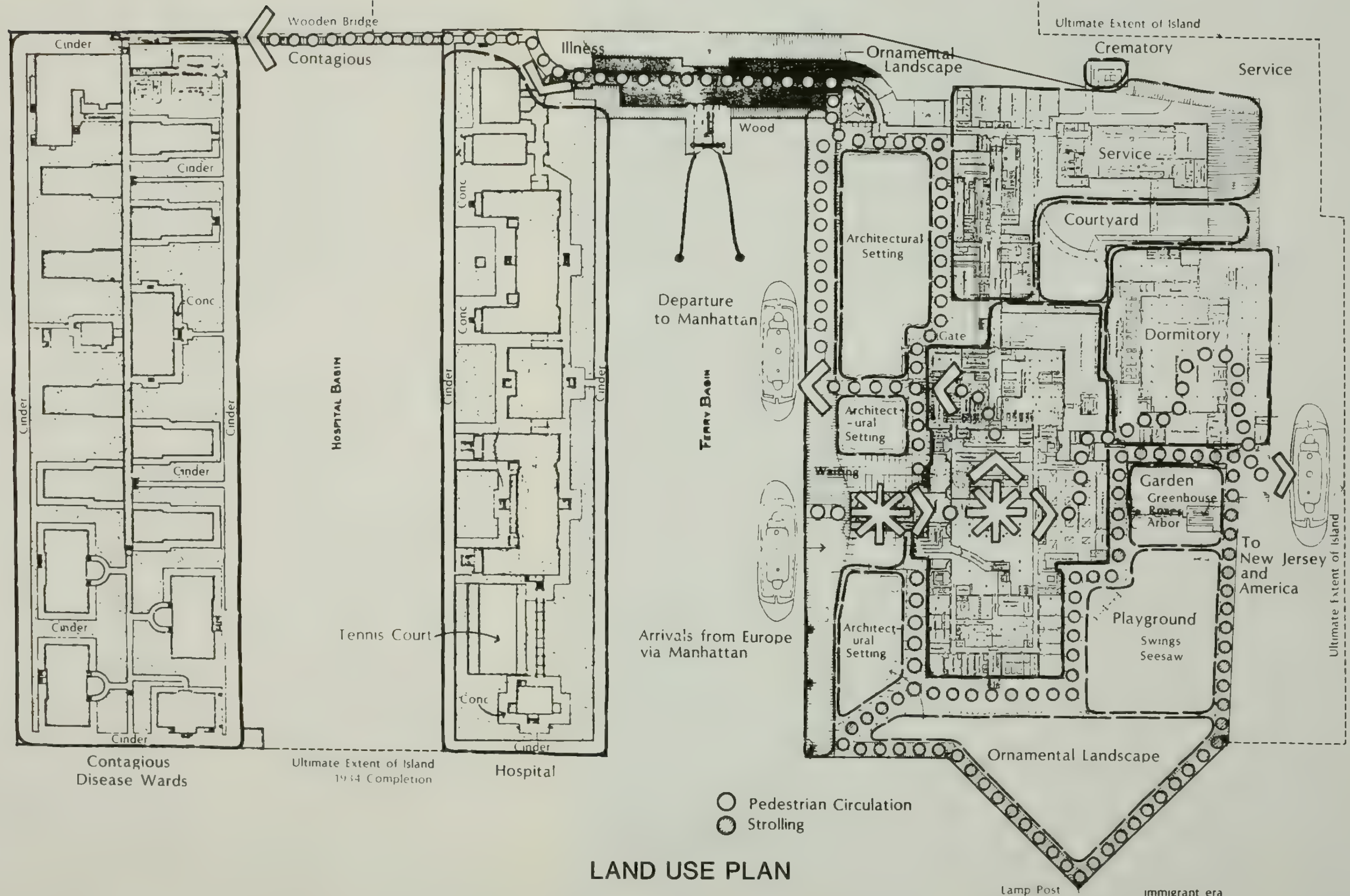
Lamp Post

immigrant era

356 | 26,002 / 15 of 70
DSC | JUL 88

0 50 100





LAND USE PLAN

1913

Lamp Post immigrant era

356 26,002 / 15 of 70
DSC JUL 88

0 50 100



The first consideration of recreation, in 1903, was noted in the New York Times on July 12, 1903. The article discussed the new roof garden which extended

"the whole length of the southern part of the building, and has proved a great boon to detained immigrants. In the past very few cared to visit it in the daytime for the simple reason that they had no protection from the sun. Now all this is changed. A canvas awning has been placed in position which can be quickly put down at night, and the result of it all is that the roof of the main Ellis Island building is now an ideal lounging place by day as well as by night."⁴

This implies that the roof garden was the only recreational space provided for the immigrant detainee. In 1904 a portion of this roof garden was converted into a play area for detained children. This space remained in use until 1913 when a third floor addition was added to the building. No record of other recreational uses of the landscape during this period have been found. Perhaps the island's administrators were so concerned with expanding the overcrowded processing facilities that they were unable to equip and staff the landscaped areas for immigrant use.

In 1914, during the reform era when active recreation and play were widely encouraged in urban areas, Frederic C. Howe, the Commissioner of Ellis Island, took steps to use the Ellis Island landscape for immigrant detainee recreation for the first time. He put benches on the lawns and allowed the detainees out of doors; an outdoor

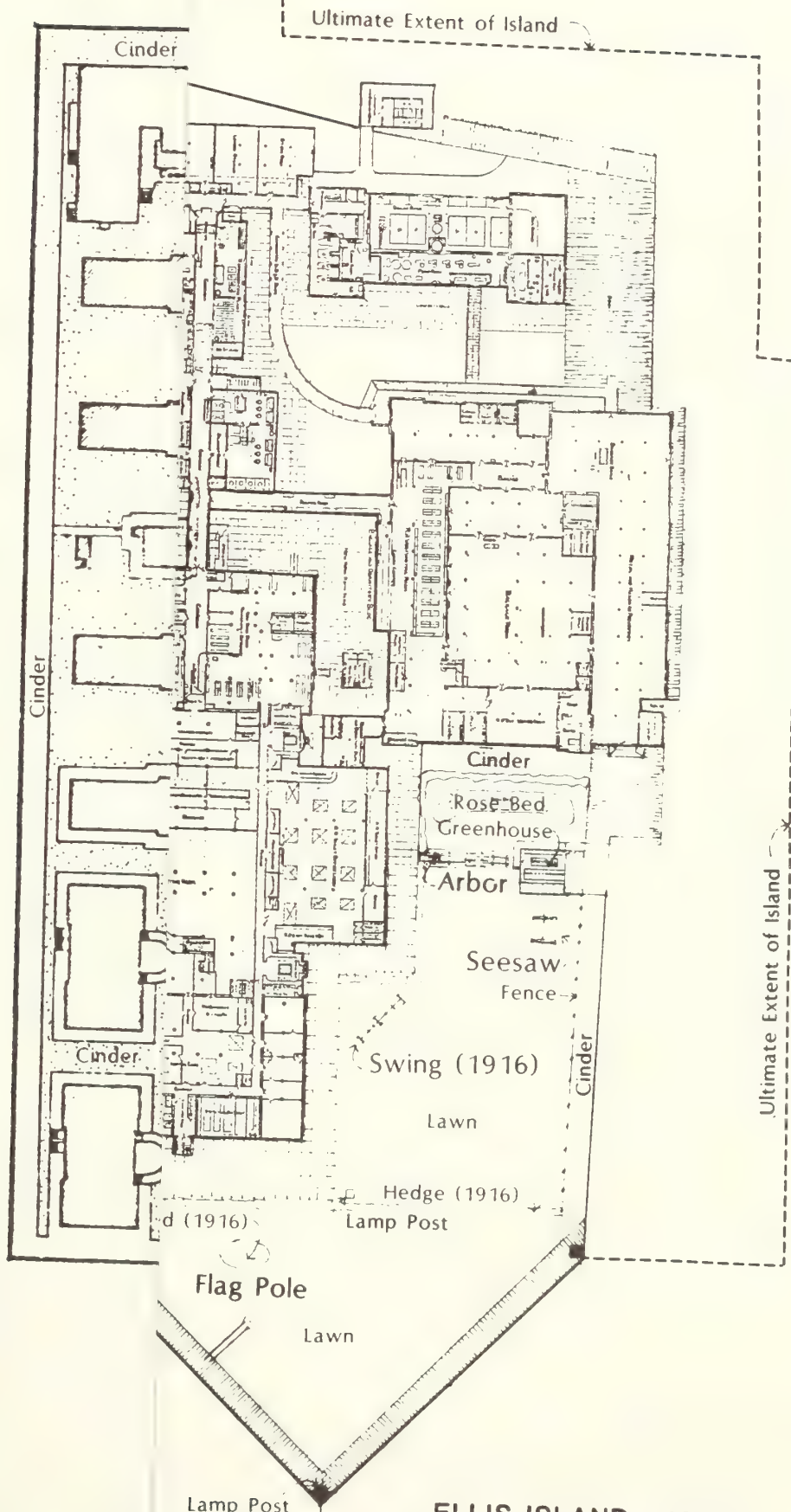
⁴New York Times, July 12, 1903.

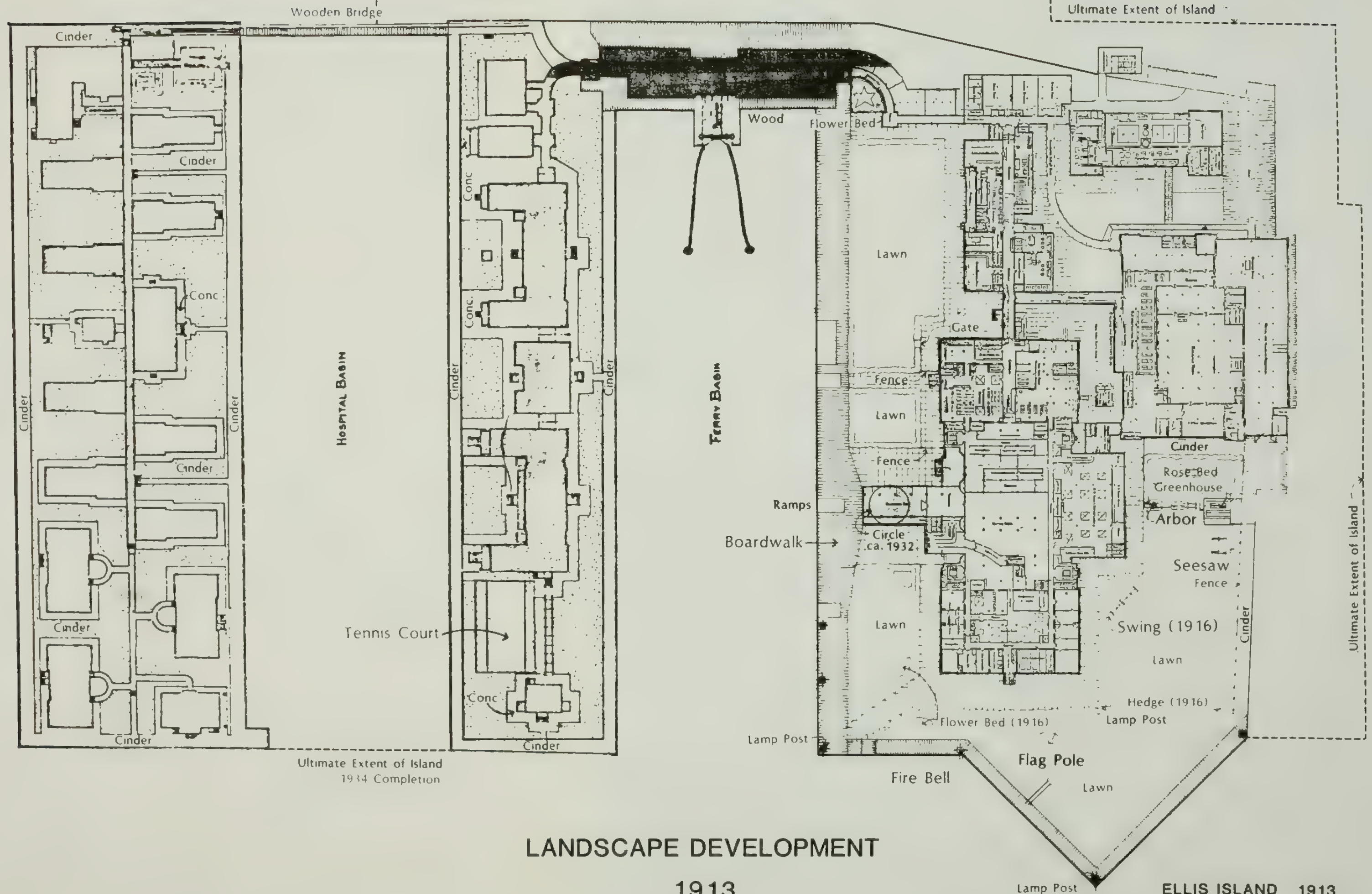
playground was built to the north of the main building for detained children; swings were put on the piazza; handball courts and other recreational facilities were provided although exact locations are unknown; and band concerts were held. The landscape had a "friendly" appearance during these years, with flower beds, rose beds, and pots of flowers throughout the landscape to encourage strolling or lingering out-of-doors (exhibit 8).

During, World War I, when suspected enemy aliens were detained on the island, the landscape was probably scarcely used.

In the post-war era when the island was in a deteriorated condition and funds were not made available for rehabilitation, it is reasonable to assume that amenities such as playground equipment and flowers in the landscape disappeared. Consequently, landscape use was probably minimal again for detained alien deportees and immigrants alike, although lawn area to the east and north of the main building was fenced in, probably for a recreation yard.

The landscape usage remained much the same until the WPA era. At that time the island, which had basically developed along the lines of the Boring and Tilton master plan, was redesigned. Since 1924 the island had primarily been a detention station for detention and deportation and served secondarily as an immigration station. It was determined during the WPA era that the main building would serve as a detention facility and that Immigrant processing would take place in a soon-to-be constructed building behind the ferry house on new landfill. Although the new immigration building was never used for immigrants, the plans proceeded along these lines, altering the use of the island and its landscape.





LANDSCAPE DEVELOPMENT

1913

Lamp Post

ELLIS ISLAND

1913

356 | 26,002 / 16 of 70
DSC | JUL 88

0 50 100



The WPA plan called for expanding the seawall and landfilling the area behind the main building from its 1902 configuration to its present-day appearance. This area included additional width along the entire length of the seawall behind the main building, and 100 extra feet of landscape behind the ferry building around the site of the new immigrant building. In addition, the landfill between islands 2 and 3 which had been underway since 1920 was completed and ready for development, which commenced in 1934.

The WPA showed particular concern about recreational provisions for detainees and immigrants (exhibit 9). A recreational hall and center with a geometric path layout was constructed on the landfill between islands 2 and 3. The new landfill behind the main building was fenced off, and a foreshortened baseball field with backstop was provided. The plans for the landfill around the new immigrant building called for a playground and garden, but these were never built. A fence was constructed around the area. The new landfill behind the powerhouse and the baggage and dormitory building was fenced off, and a new recreational structure was built there. The purpose of the three fenced-off yards was to separate immigrants from criminal and undesirable deportees. The fencing and the changes in circulation resulted in dividing the landscape of the main island into pieces.

The area at the point and in front of the main building continued to have primarily ceremonial usage. The path system in front of the main building was altered since the southwest door was now used rather than the original central entrance. Arrival and processing continued in the main building, rather than the new immigration building (exhibit 10).

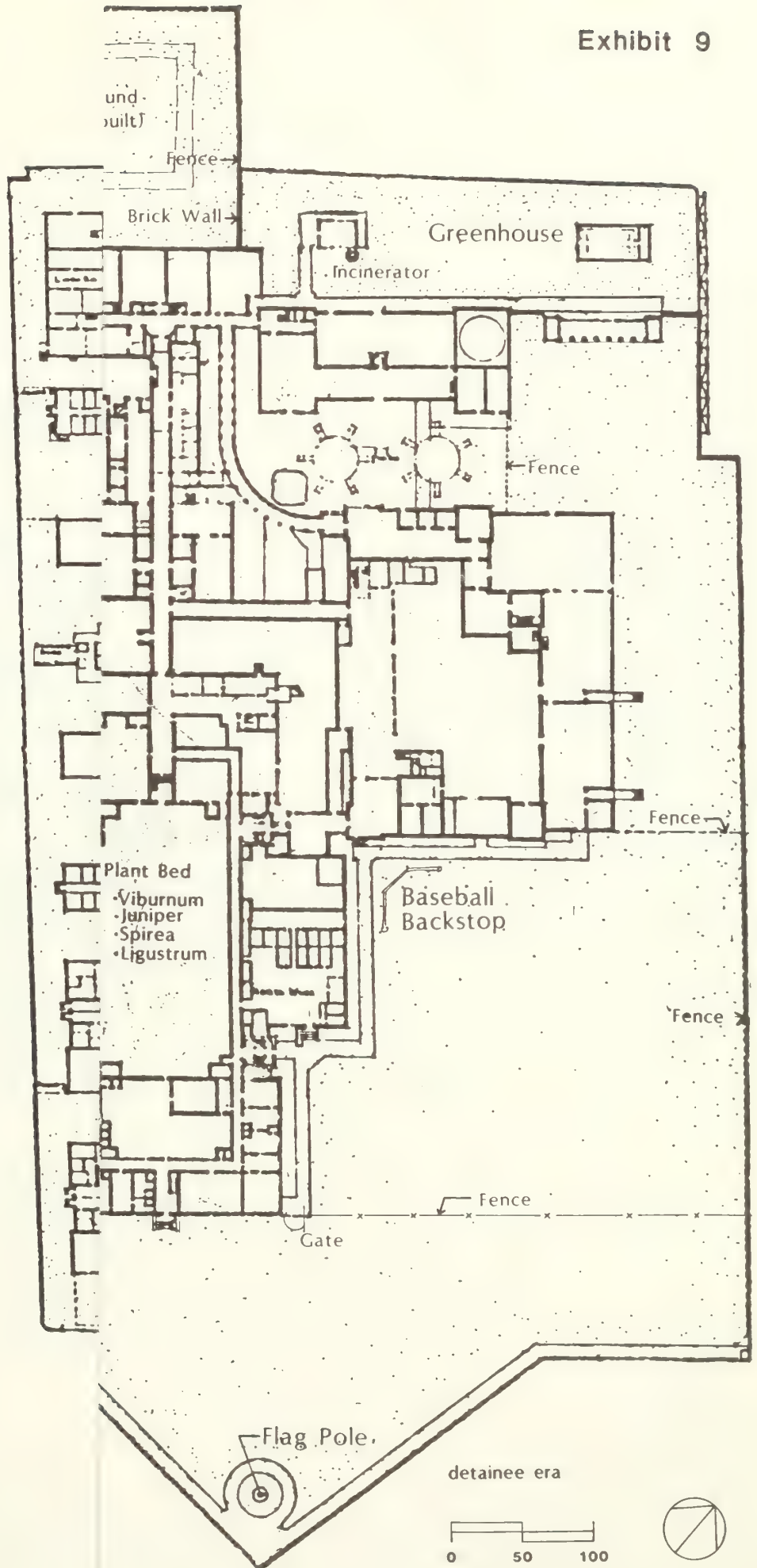
The hospital island also had a fenced-in landscape for illegal entrants under hospital care. This area was located between pavilions at the island's edge, facing the Statue of Liberty. The new central recreational landscape on the hospital island, unlike the new layout on island 1, worked well for circulation and recreation until the island closed in 1954. It was used by immigrants, merchant seamen, and members of the Coast Guard in the hospital facility. The Coast Guard used the landscape and structures on island 2 briefly after 1951 when the hospital closed.

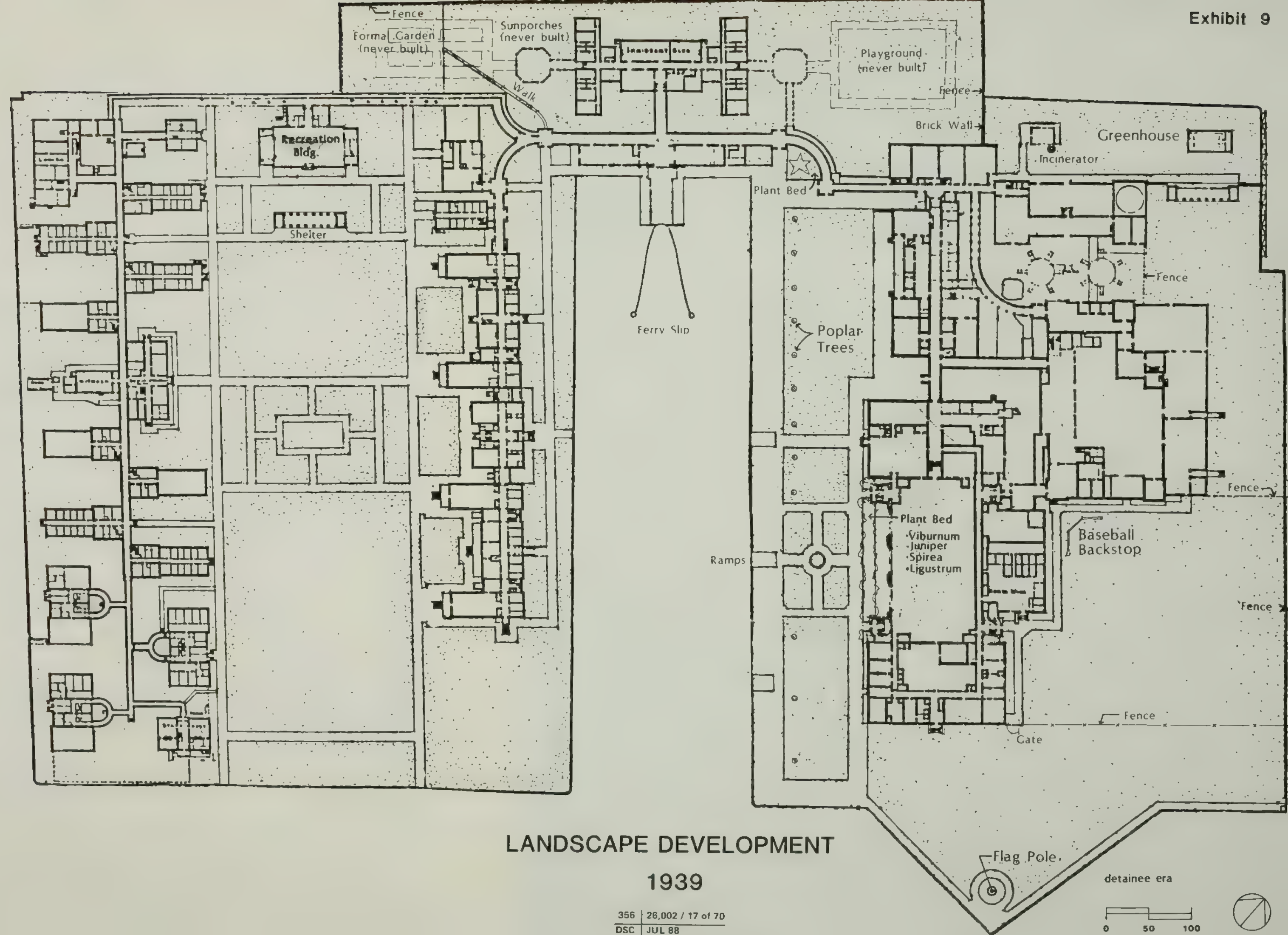
During World War II and up until Ellis Island closed in 1954, the island 1 landscape continued to be used as recreational space for detainees. The Coast Guard used the landscape around the new immigrant building up until 1946. The ornamental landscape of the main building was disrupted by a double row of chain link fencing to detain aliens during the 1940's which is still partially extant today.

Since 1975, limited access to Ellis Island has been allowed by the National Park Service for visits by the general public. The landscape use is primarily at the ferryboat landing and building entrance area. Most of the island is restricted and unmaintained. No landscape amenities have been offered to encourage public use to date.

c. Environmental Considerations in the Landscape

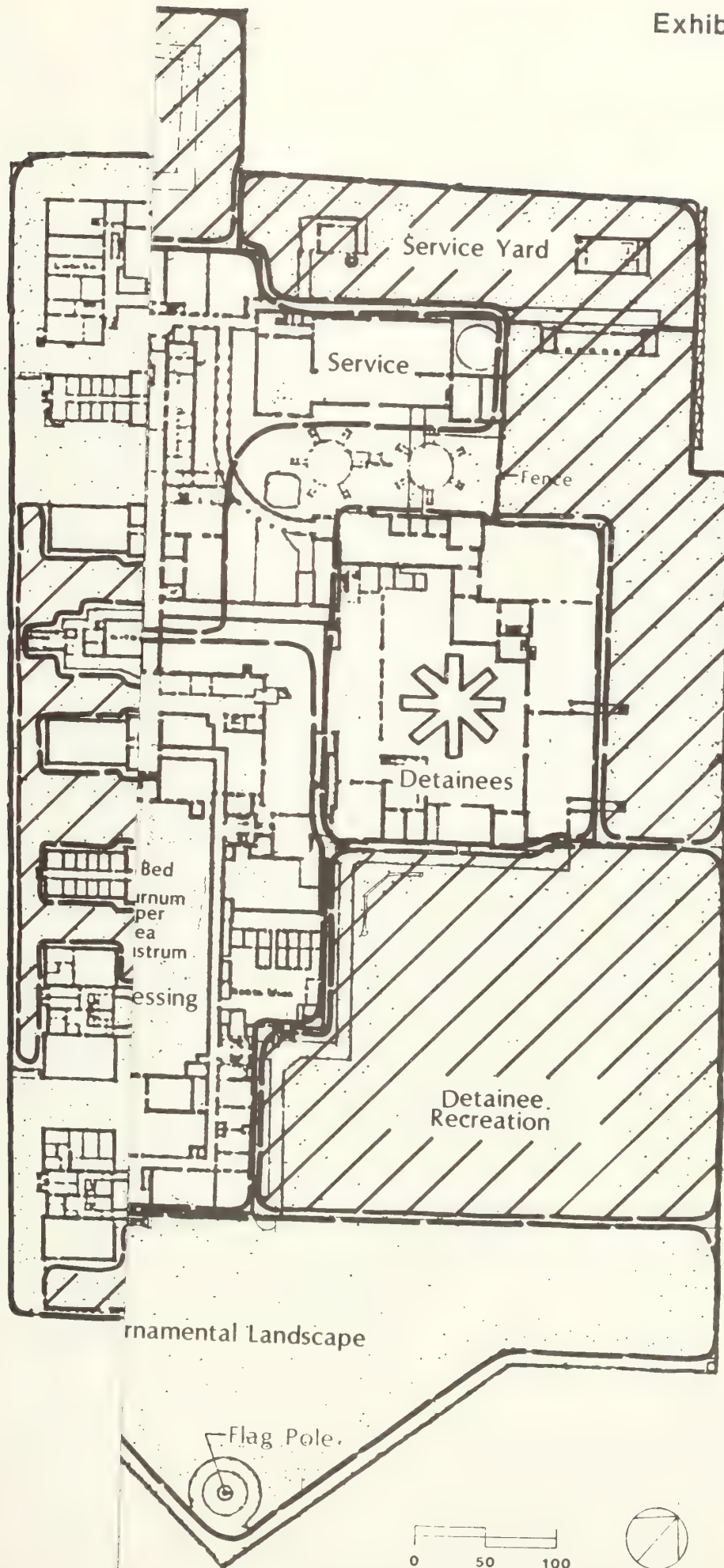
A sun angle chart for Ellis Island depicts sun exposure and shadow in different seasons of the year (exhibit 11).

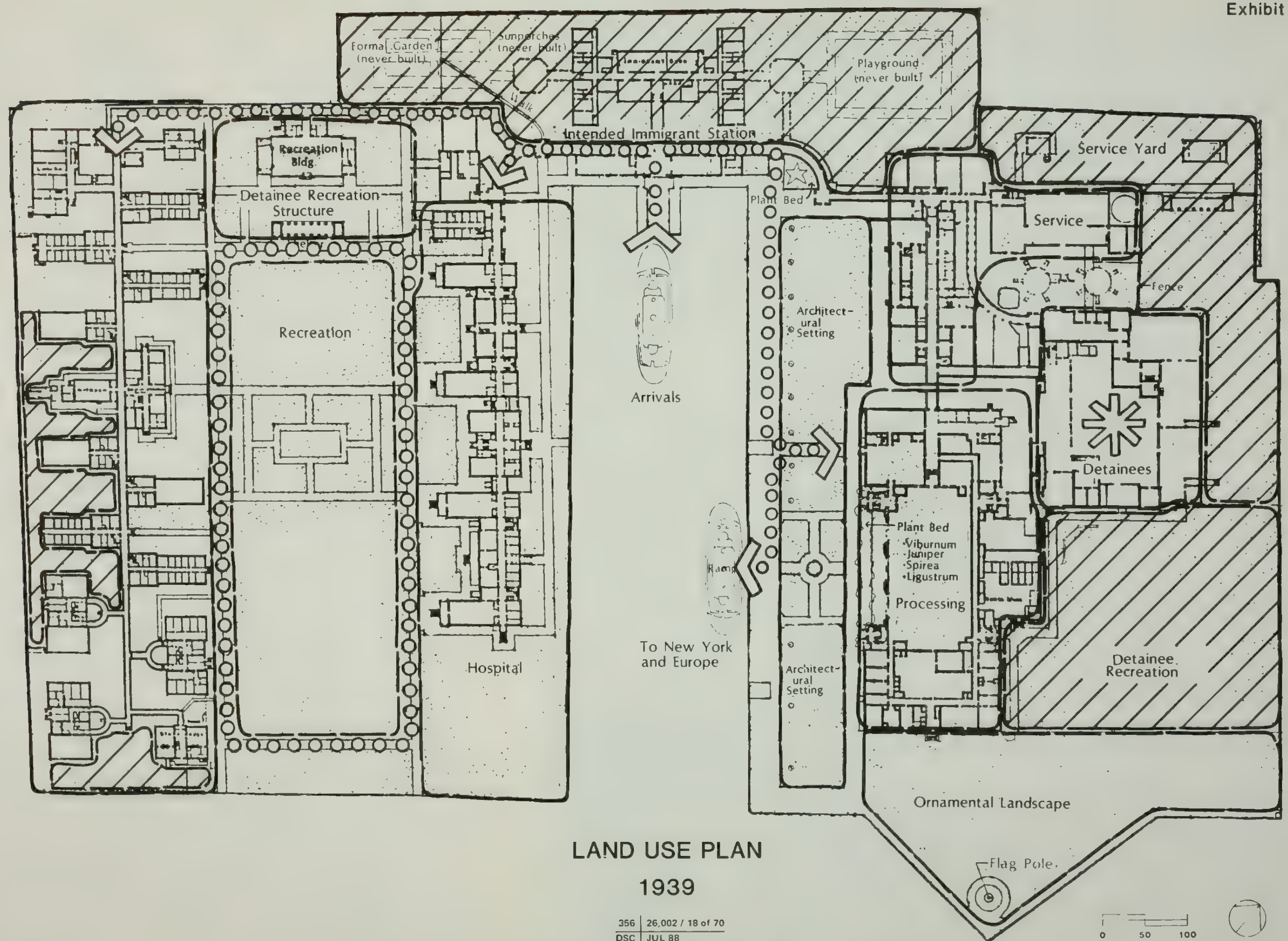




LANDSCAPE DEVELOPMENT 1939

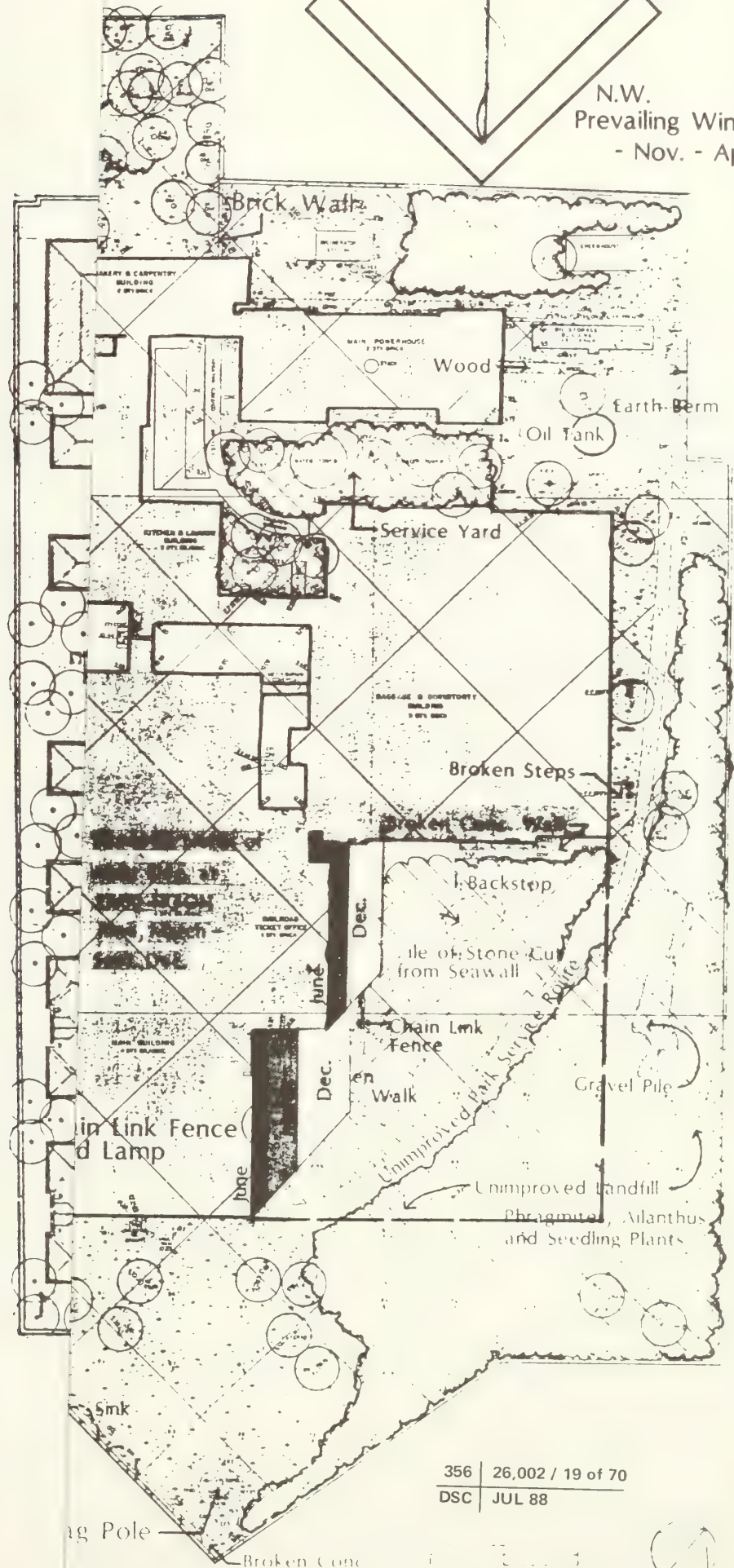


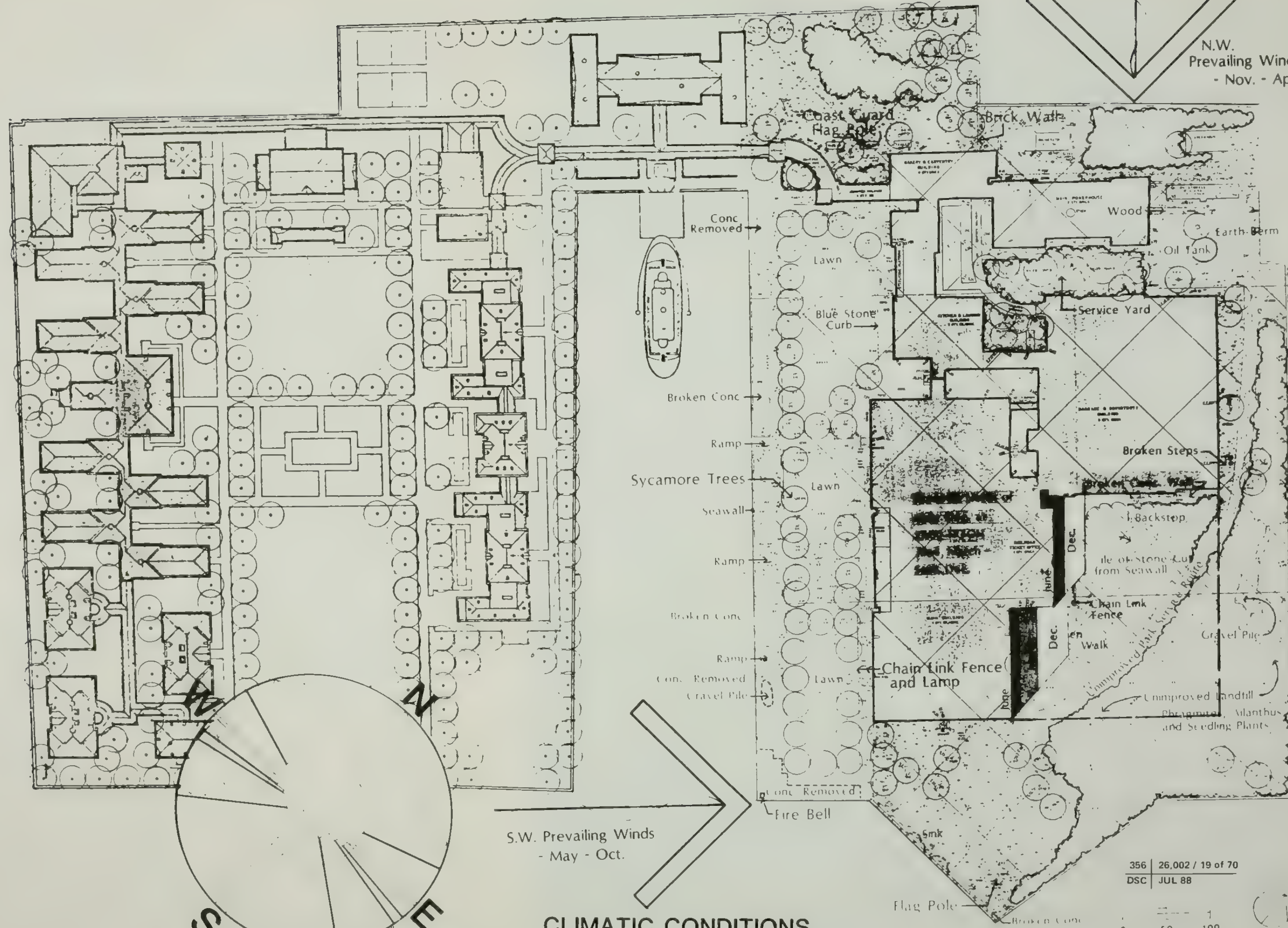




LAND USE PLAN 1939

N.W.
Prevailing Winds
- Nov. - April





S.W. Prevailing Winds
- May - Oct.

CLIMATIC CONDITIONS

The prevailing winds for Ellis Island are northwesterly in the winter and southwesterly in the summer. The presumed loss of planting from the 1939 planting plan and examination of existing vegetation suggests that the winter winds have had a detrimental effect on the vegetation, particularly on the landscape behind the main building where a number of plane trees from the 1939 planting may be missing.

The character of the original ecosystem is unknown. Oak-chestnut association forests were original for Manhattan Island but the lowness of the ground and its susceptibility to high winds may have given the original Ellis Island a coastal association of grasses and beach type plants.

The island's proximity to the New Jersey mainland probably allowed beaver, harbor seal, wild turkey, and ruffed grouse to be at the island. Additionally, a variety of fur bearers, small mammals, resident and migrating songbirds, raptors, and waterfowl passing along the Atlantic flyway almost certainly would have been on the original island.

Little is known about the present day wildlife on the island, although island 2 certainly provides good cover and habitat for migrating birds. Extensive rodent and pigeon populations inhabit the island. In addition, a number of pheasant have been sighted. The dominant plant succeders are the exotic *Ailanthus altissima* and the native *Betula populifolia*.

d. Existing Landscape Features⁵ (exhibit 12)

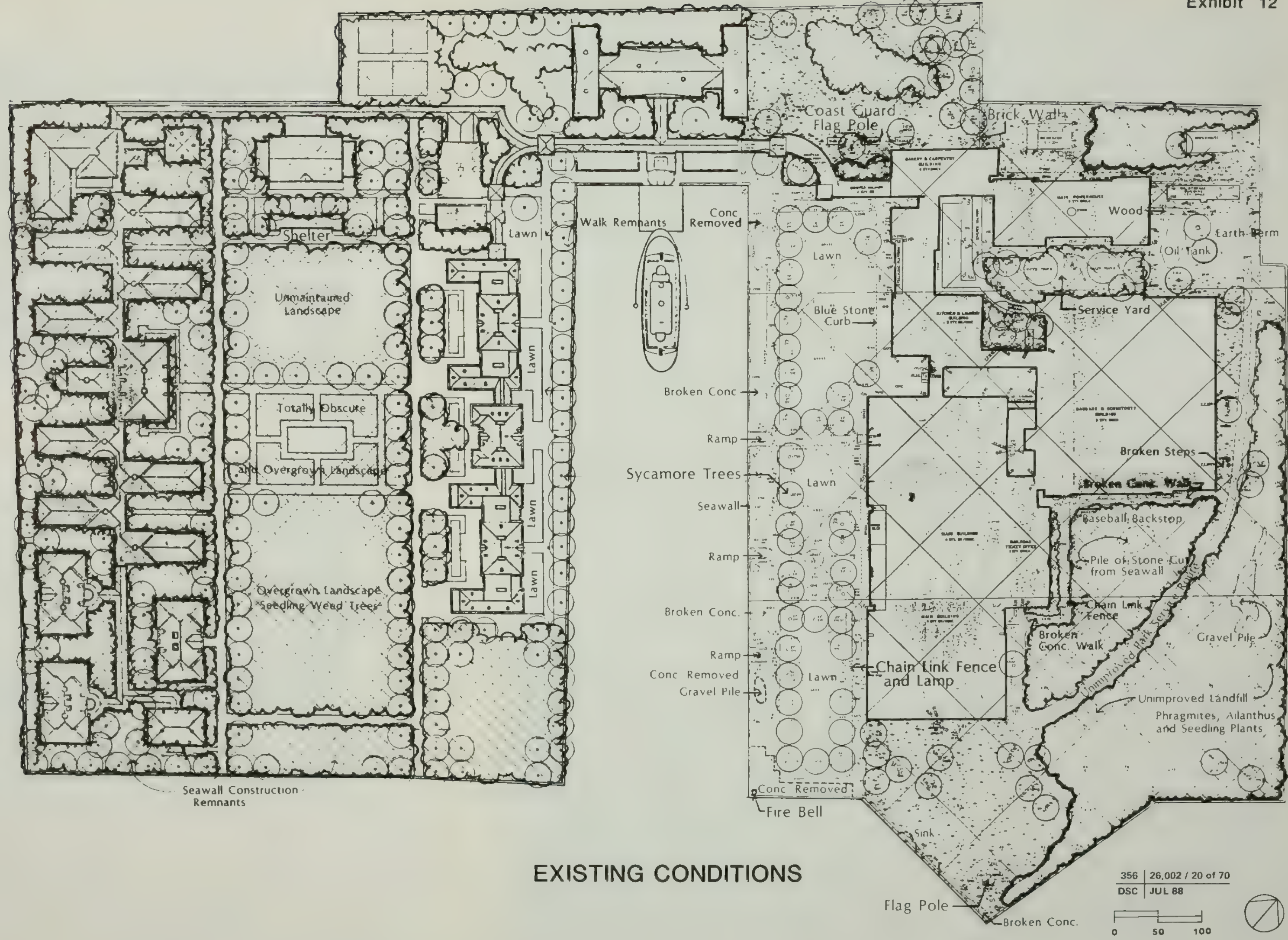
1. Topography

In 1898 Boring and Tilton recommended raising the grade of Ellis Island for the main building "two feet above the present level." That grade has been maintained ever since (photo 13). The terrain does pitch away from the building slightly in most cases, but this is in obvious evidence today only by viewing a bluestone retaining wall at the western end of the kitchen and laundry building (photo 14). Grading was done in front of the main building and on island 2 circa 1902. Grading of island 3 was undertaken in 1912. The last landfill areas between islands 2 and 3, the northeast corner of island 1, and the 1935 landfill around the new immigrant building were all graded in 1935-1936. In general, there are no topographic features except for the aforementioned bluestone retaining wall dating from 1902. The major topographic characteristic of the landscape is its seemingly flat appearance. Overall, the condition of the topography is stable. Several sinkholes around the seawall have developed and are expanding (photo 15).

2. Path Layout

The 1903 path layout is still retained in front of the western end of the main building and in front of the kitchen and laundry building (photo 16). The rest of the island 1 path layout dates from 1937, including the walk in the front of the eastern half of the main building, and

⁵This section is based on a field survey conducted by Bruce Kelly between September 1983 and May 1984.



EXISTING CONDITIONS

356 | 26,002 / 20 of 70
DSC | JUL 88





13. Flat terrain, east end of island.



14. Bluestone retaining wall, west end of kitchen and laundry building.



15. Sinkhole along seawall.



16. The extant 1903 path layout, west end of main building.

the walk around the rear of the main building and along the east side of the baggage and dormitory building (photo 17). These are the only extant walks on island 1.

On island 2, remnants of the concrete apron, circa 1912, exist around the contagious disease wing and around the hospital wing circa 1902. The central path system in the 1920-1930 landfill area is still intact in its original circa 1935 layout. This design is based on the ancient Greek Pythagorean theory that transcendental harmony is found in geometric forms built on a series of 37-1/2 degree angles, squares, and double squares. This design philosophy has been intermittently popular throughout western history, including the Italian Renaissance and the Beaux Arts era. In the entire Ellis Island landscape this path system is the most distinguished and sophisticated element. Remnants of the 1937 circulation system design are also found on island 2, located adjacent to the ferry slip seawall in front of the hospital complex. These remnants probably remain from the demolition of the walk when the new seawall was installed circa 1976.

Southwest of the new immigrant building, rows of overgrown privet, (*Ligustrum vulgare*) delineate a more impromptu path, unpaved, which probably dates to the 1939 planting plan.

There presently is no comprehensive path layout for the island. The several remnant pieces do not constitute a working circulation system but do reflect the several historical periods mentioned above.

3. Paving Materials

Other than dirt "desire lines" (shortcut paths visible because of their wear on grass or planted areas) (photo 18), the Ellis Island landscape has had boardwalk, cinder, and concrete paths. Of the three designed path types, only concrete paths and a small amount of boardwalk near the greenhouse (photo 19) are extant. All the paths mentioned under "Path Layout" are concrete. In a 1937 specification for new paths on island 1, the paths were to be five inches thick "in about 4 foot squares" with 3/8" expansion joints not over 20 feet apart, reinforced with a wire fabric. Cinder remnants are apparent all over Ellis Island but these are probably from the landfilling operations which definitely included cinder.

The existing concrete walks are all in poor condition. They are cracked and spalled, with buckling, and often have indistinct edges due to corrosion or piecemeal demolition (photo 20).

The walks in front of the main building, dating from 1937, usually have a 6 inch reinforced concrete curb (photo 21). Along the western end of the lawn areas and adjacent to the buildings, bluestone curbing dating from 1902 is used (photo 22). One concrete gutter is used along the westernmost walk perpendicular to the boat slip where it abuts the corner planting bed (photo 23).

4. Lamps

The bishops crook lamps that were used in the 1902 landscape as shown in early photographs of island 1 (photo 2) are no longer on Ellis Island. Only two lamp types are present. One is a single tin crooked-neck lamp



17. Walk around the rear of the main building.



18. "Desire lines", north side of baggage and dormitory building.

3. Paving Materials

Other than dirt "desire lines" (shortcut paths visible because of their wear on grass or planted areas) (photo 18), the Ellis Island landscape has had boardwalk, cinder, and concrete paths. Of the three designed path types, only concrete paths and a small amount of boardwalk near the greenhouse (photo 19) are extant. All the paths mentioned under "Path Layout" are concrete. In a 1937 specification for new paths on island 1, the paths were to be five inches thick "in about 4 foot squares" with 3/8" expansion joints not over 20 feet apart, reinforced with a wire fabric. Cinder remnants are apparent all over Ellis Island but these are probably from the landfilling operations which definitely included cinder.

The existing concrete walks are all in poor condition. They are cracked and spalled, with buckling, and often have indistinct edges due to corrosion or piecemeal demolition (photo 20).

The walks in front of the main building, dating from 1937, usually have a 6 inch reinforced concrete curb (photo 21). Along the western end of the lawn areas and adjacent to the buildings, bluestone curbing dating from 1902 is used (photo 22). One concrete gutter is used along the westernmost walk perpendicular to the boat slip where it abuts the corner planting bed (photo 23).

4. Lamps

The bishops crook lamps that were used in the 1902 landscape as shown in early photographs of island 1 (photo 2) are no longer on Ellis Island. Only two lamp types are present. One is a single tin crooked-neck lamp



17. Walk around the rear of the main building.



18. "Desire lines", north side of baggage and dormitory building.



19. Boardwalk near greenhouse.



20. Concrete walk in poor condition.



21. 6" reinforced concrete curb in front of main building.



22. Bluestone curbing dating from 1902.

installed in the World War II detention era connected to the double row of chain link fence in front of the eastern end of the main building (photo 24). The second type of lamp is found in the central space of island 2. This is a Beaux Arts type lamp head, seemingly pre-1935 (the construction date of the landscape space), on an eight-foot octagonal concrete aggregate post that appears to be circa 1935 in style.

The tin crook-neck lamp is intact but not working. The island 2 lamp heads are intact but the reinforced concrete posts are cracked and are badly deteriorated.

5. Fixed Objects

The fire bell at the southeastern corner of island 1 has probably been in that location since circa 1935. In 1913, it was located on the seawall north of its present location. The bell and its structure are in good condition (photo 25).

Iron bollards have been placed along the ferry slip seawall in front of the main building. These elements are first noted in photographs circa 1920, after the cribbing seawall and boardwalk were demolished and the concrete/granite seawall and adjacent concrete walk were constructed. The bollards are rusty but solid and in good condition (photo 26).

Like the bollards above, 12 inch x 12 inch creosote timbers probably lined the boat slip seawall after circa 1920 when the old cribbing seawall was demolished. These timbers may have subsequently been replaced. Timbers have been a constant landscape element in the boat slip area since the construction of the masonry seawall.



23. Concrete gutter, near western end of ferry slip.



24. Single tin crook-necked lamp, east end of main building.



25. Fire bell at the south-eastern corner of island 1.



26. Bollards along ferry slip.

Fire hydrants, typical of those in New York City at the time, are in the landscape. Their installation date is unknown. They are in good condition but need painting (photo 27). Two manhole utility cover types occur in the landscape, one round, one rectangular. During this study, neither type could be removed to see what they cover. These elements may be among the oldest above grade objects on Ellis Island, possibly predating the existing main building. Their condition is good but rust is present on them (photos 28 and 29).

A wooden fire box with emergency equipment approximately 4' high x 6' x 3' has been placed in front of the main building by the National Park Service circa 1976 (photo 30).

A water hydrant is visible on the lawn area adjacent to the southwest entrance to the main building (photo 31).

The flagpole at the tip of "the point" and the remnant concrete apron around its base date from 1937. The metal flagpole, painted white, is in good condition (photo 32).

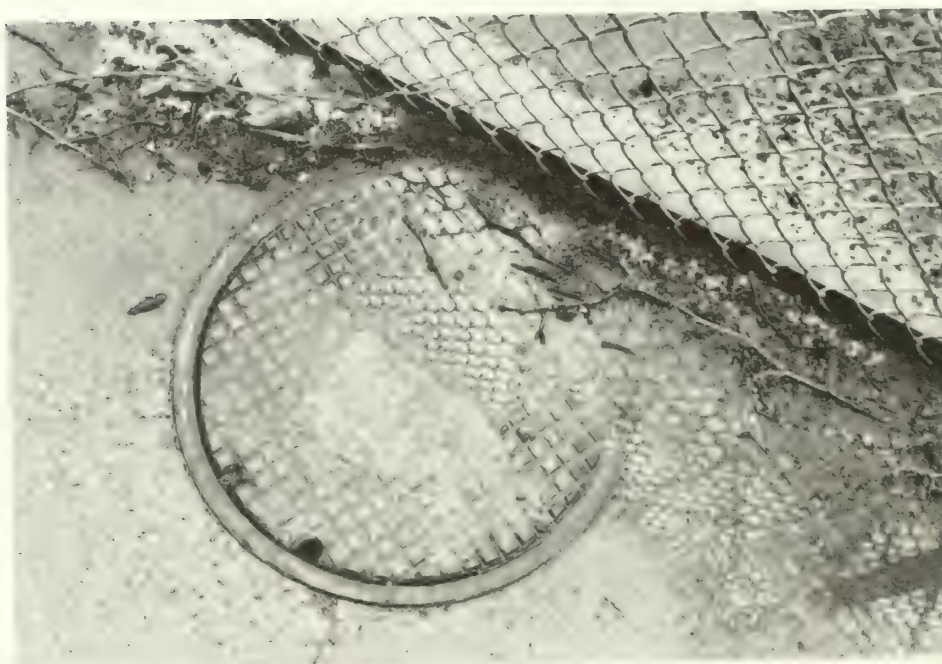
North of the new immigration building, a concrete flagpole base inscribed "United States Coast Guard Oct 1940" is extant. The weathered base reveals two pipe-pin reinforcing rods which originally connected the flagpole (photo 33).

6. Benches

Four bench types are extant on Ellis Island. The first type is located adjacent to the ticket office. Its support is constructed of cast iron. The seat and back



27. Fire hydrant.



28. Manhole cover.



29. Manhole cover.



30.. Fire box.



31. Water hydrant.



32. Flagpole at the tip of the "point".

are 1 inch x 4 inch wooden slats without spacing (photo 34). This bench is the same as is seen in a circa 1914 photograph of the lawn area.

A second bench type has a bent steel support system, on seven foot centers, with wooden slats for the back and seat. This bench type is located north of the baggage and dormitory building near the doorstep leading from the structure (photo 35).

A third bench type has a perforated cast iron support system with wooden slats. This bench is located in the westernmost corner of the 1935 landfill area adjacent to the new immigration building.

A fourth bench type is located at the northwest corner of island 2. It is a simple steel bench structure with a wood slat seating surface.

None of these benches is in good condition, but their metal support systems are intact and stable.

7. Waste Receptacle

A wire waste receptacle, 36 inches high by 24 inches diagonal, is at the back door of the central wing of the hospital building. It is bent and rusted, but intact.

8. Fences and Walks

The chain link fence along the front of the main building, around the ticket office and the baggage and dormitory building, with pieces adjacent to the powerhouse, dates from the World War II detention era. Large sections of this fence system have been removed. The remaining



33. Concrete flagpole base, north of the new immigration building.



34. Bench.

pieces are rusted and in some places the chain link mesh is detached from its metal support system (photo 36). A chain link baseball backstop, intact but rusting, is also part of this installation. It is located at the corner of the ticket office and the baggage and dormitory building (photo 37).

A wooden fence between the powerhouse and the baggage and dormitory building probably dates from the last years of active use of Ellis Island before it closed in 1954. It was poorly constructed of 2 inch x 4 inch posts and caps with perpendicular and parallel 2 inch x 4 inch braces. At present it is in a badly deteriorated condition with loose, missing, and rotting members (photo 38).

A brick wall separates the landscape around the new immigrant building from the landscape adjacent to the powerhouse. This wall was probably built circa 1937 when the island landscape was divided into three separate detention/recreation yards. The eight-foot high wall has been punctured by a large hole to allow passage. Otherwise its condition is stable.

Between the contagious disease ward and the hospital ward, a rubble wall was constructed in one of the landscape alcove spaces south of the central quadrangle. This crudely constructed wall is crumbling. The wall is ± 36 inches high by ± 30 inches wide. Its function or date of construction is unknown, but its poor workmanship suggests that it is a later addition to the 1937 WPA landscape in this area.

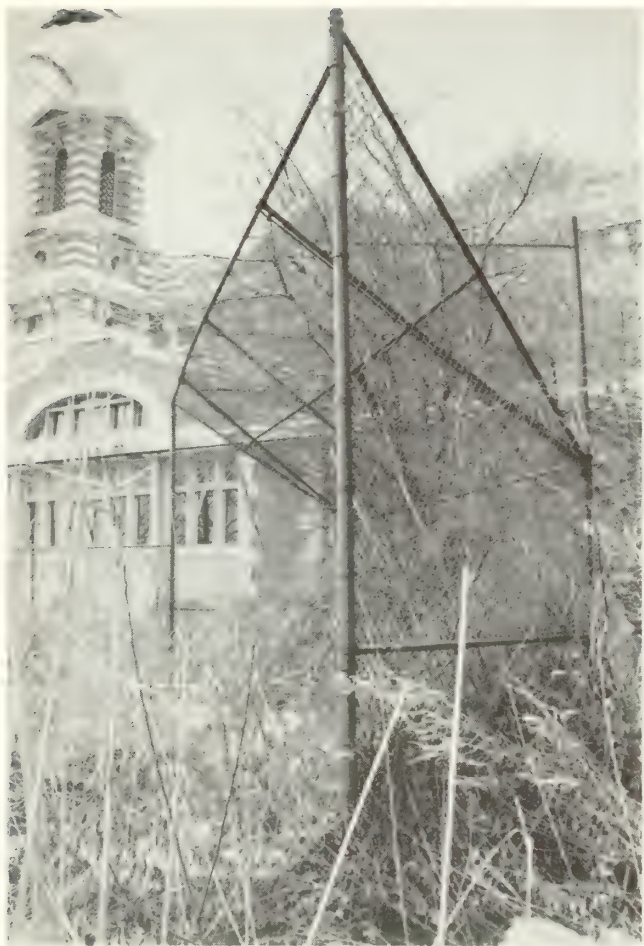
A modern NPS fence of wooden posts and two metal pipe cross members was constructed circa 1976 for crowd control. It runs along the walk to the existing



35. Bench found on the
doorstep of the
baggage and dormitory
building.



36. Chain link fence, in front of the east wing of the
main building.



37. Chain link baseball backstop, located at the corner of the railroad ticket office and the baggage and dormitory building.



38. Wood fence between the powerhouse and the baggage and dormitory building.

entrance to the main building (southwest) and along the bulkhead to the ferry building. This structure is in good condition (photo 39).

The granite seawall, begun in 1913, finished in 1935, and in the process of reconstruction since 1976, is in good condition. The wall top elevation above landscape grade varies from 0 to ± 4 feet (photos 40 and 41).

9. Horticulture

With the possible exception of the grass on the lawn areas in front of the main building, the horticulture on Ellis Island is all post-1940.

The most distinguished horticultural element is the rows of London plane trees, *Platanus acerifolia* (photo 42). These 150 trees are located in front and beside the main building, along the ferry basin in front of the hospital, and in the central quadrangle of island 2. They vary in size from 12" c. to 45" c. The trees are in good health with the exception of two that are in poor condition; one at the corner of the kitchen and laundry building and the passage to the ferry house is hollowed, and the other, located west of the central circular bed in front of the main building, is dwarfed and sickly.

The only other designed horticultural elements in the landscape are the pin oaks, *Quercus palustris*, privet in the landscape of the new immigrant building, the ivy, *Hedera helix*, throughout the island (photo 43), and the shrub planting of the central quadrangle of island 2. The planting on island 2, now unmaintained and naturalized, includes:



39. Modern NPS fence, front of main building.



40. Seawall, east end of island 1.



41. Seawall, west end of island 1.



42. London plane trees in front of the main building.

| | |
|------------|-------------------------------|
| privet | - Ligustrum vulgare |
| | - Ligustrum Californicum |
| forsythia | - Forsythia suspensa |
| bear grass | - Yucca aliafolia |
| birch | - Betula populifolia |
| lilac | - Syringa vulgare |
| elm | - Ulmus Americana |
| yew | - Taxus baccata |
| euonymus | - Euonymus alatus |
| ivy | - Hedera helix |
| virginia | |
| creeper | - Parthenocissus quinquefolia |

Each of the plants listed has, as noted, naturalized and is self-seeding around the island. Other plants which probably arrived here through the wind or by birds include apples and crabapples (*Malus* species), ailanthus (*Ailanthus altissima*), sumac (*Rhus typhina*), and a variety of weed grasses.

The ailanthus, an aggressive self-propagator, has become the dominant species on the island, particularly on island 2 (photo 44).

Other than the London plane trees and *Malus* species to the east of the main building, and the lawn areas adjacent to the main building, the horticulture is untended and in weedy condition.

10. Soils

The base soil on the bulk of Ellis Island is mostly rubble and cinder landfill. Most of the island has been dressed with several inches of additional topsoil. The



43. Ivy, *Hedera helix*,
near covered way.



44. *Ailanthus altissima*, near water towers.

area of 1935 landfill on island 1 and in the landscape adjacent to the new immigration building has not received a top dressing, however, and is largely cinders (photo 45).

11. Ferry

The ferry boat "Ellis Island" sank in the slip in 1968. Photo 46 illustrates the ferry in 1965. All that is visible today is the top portion of the wheelhouse in a badly rusted state.



45. The 1935 landfill which is largely cinders.



46. Ferry in the slip, 1965, view north.

C. ARCHITECTURAL DATA COMPONENT

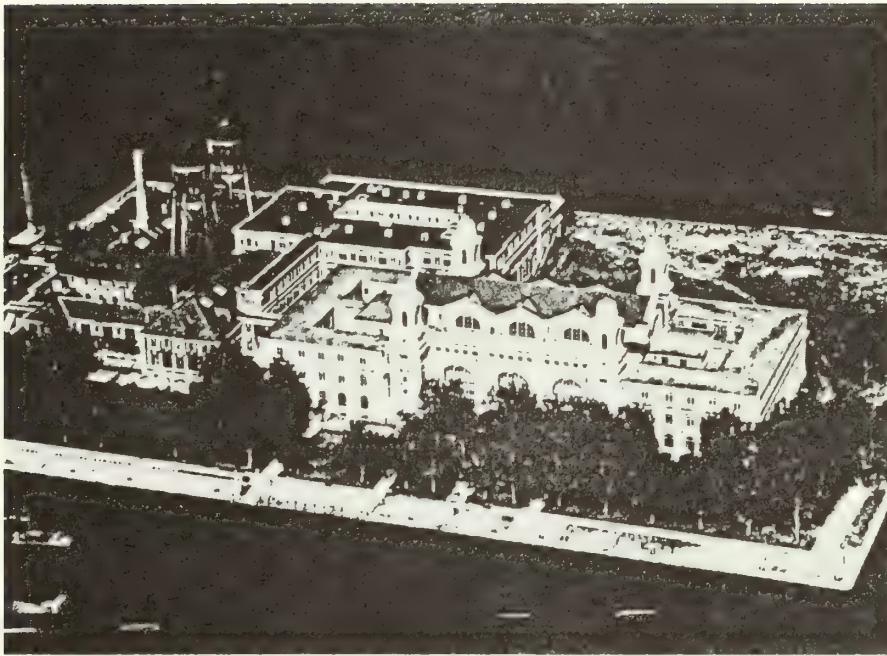
1. Exterior

a. Description¹

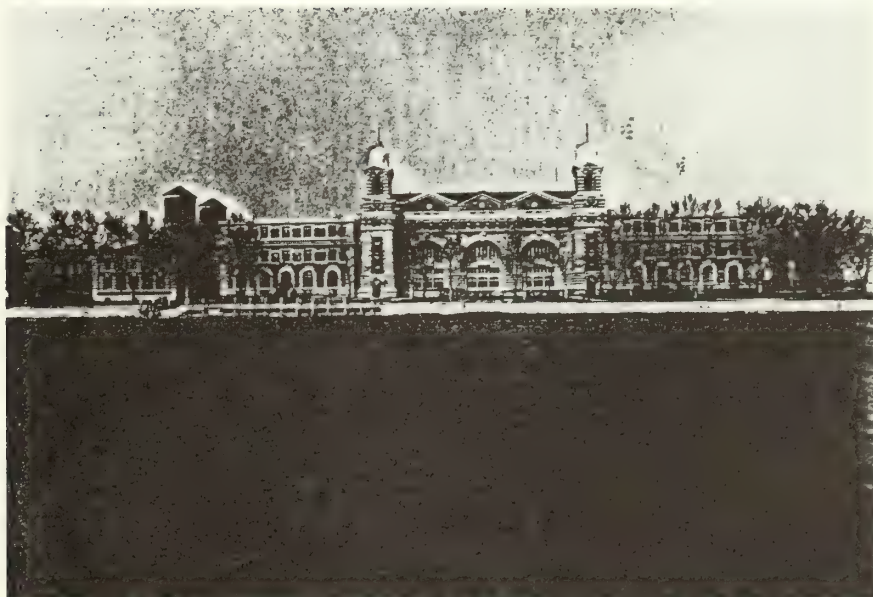
The main building is a three-story steel-frame structure. The exterior is clad in brick laid in Flemish bond ornamented with limestone and granite trim. The building is divided into a three-story central section flanked by three-story wings (photos 1 and 2). The latter originally had two full stories with a small third floor surrounded by roof gardens. Third floor additions were added to the wings, creating the present configuration. The railway ticket office, a single-story structure, was added to the north (photos 18-22). Historical photographs of the exterior are included in Appendix C.

The central pavilion has three monumental two-story arches on the south facade (photo 3). The main entrance to the building was originally located on the ground floor of these arches. From 1902-1932 a ramped cast-iron and glass canopy led to the entrance. Following the removal of the canopy the doors were replaced with single-light windows. Pedimented doors opening onto second floor balconies were added at the same time. Sixty-four units of metal eight-light pivotal sash fill the remainder of the arches. Each arch is framed with rounded limestone quoins with a carved winged head on the scrolled keystone (photo 4). The arches are separated by piers of quoining surmounted by carved eagles and shields (photo 5).

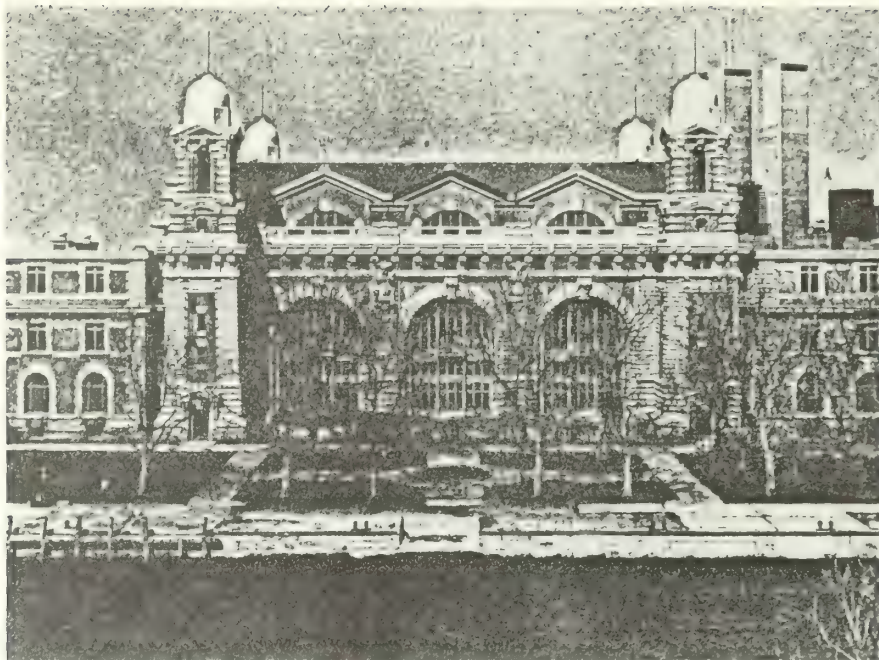
¹Based in part on Building Conservation Technology/The Ehrenkrantz Group, "Historic Structures Report, Ellis Island", prepared for the National Park Service, 1978, pp. 108-109.



1. Aerial view of island 1, looking north.



2. South facade.



3. Central section of south facade.

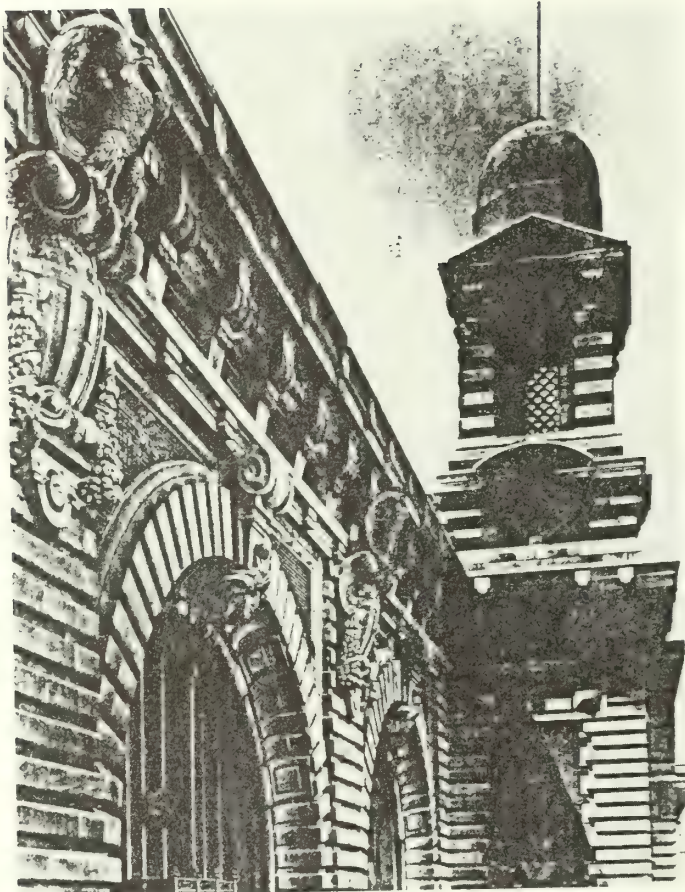


4. Detail of arch,
south facade.

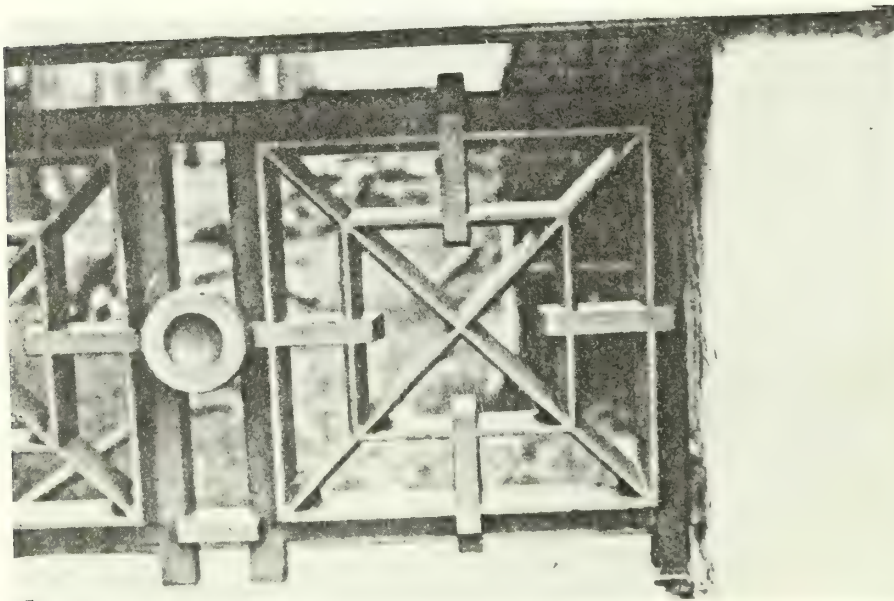
Above the central arches is a bracketed cornice with pivotal single-light wood windows between the brackets. These windows have curvilinear metal grilles. A brick wrought iron and limestone parapet marks the top of the wall (photo 6). Behind the parapet a flat gravel-covered roof leads to the central brick and limestone clerestory, which has three segmental arch window bays on the north and south sides and one larger semi-circular bay on the east and west (photo 7). The arches are filled with multiple eight-light wood sash units and the surrounds have flat stone springers and keystones on the north and south facades and continuous rims of flat quoins on east and west. The clerestory roof is gabled over each window bay and is covered with terracotta tile (photo 8). The rest of the central roof is flat and sheathed with gravel, built-up, and cinder concrete fill.

The central section of the north facade has three arches identical to those of the south facade. However, the lower portions of these arches were removed when the railroad ticket office was built (photo 9).

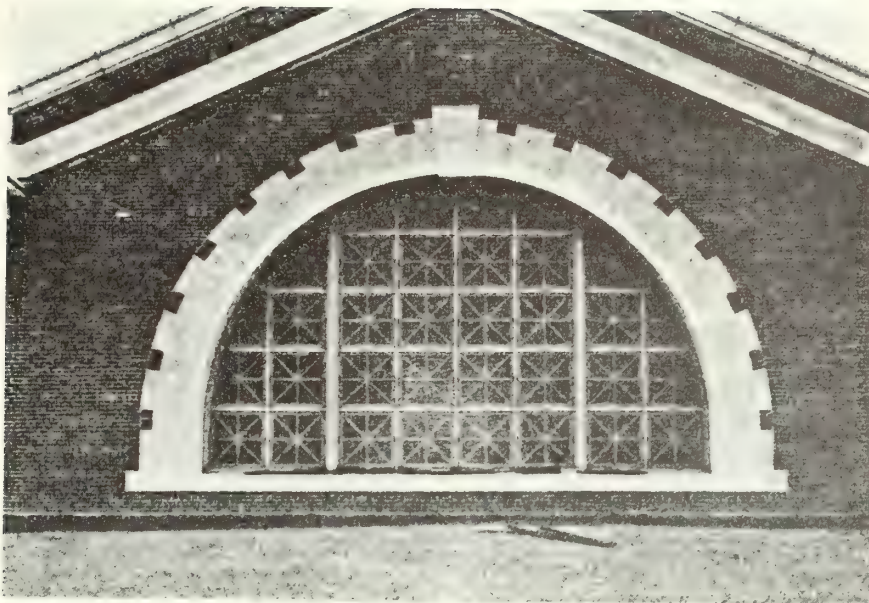
Four stair towers separate the central hall from the wings (photos 5 and 10). A granite base and limestone bands to the height of the second floor anchor the towers. Red brick walls above are framed by limestone quoining to the third story roof, where brackets support the limestone cornice. The ground floor doors have triangular limestone pediments and dressed stone surrounds (photo 11). The windows above have wood one-over-one sash with limestone sills and lintels. Some of these have metal grilles. A pivotal single-light window is located between the brackets. Above the cornice line a round-headed door leads onto the roof and round, quadrant sash windows fill the other three sides. All have limestone segmental arch



5. Cornice, decorative details, and tower.



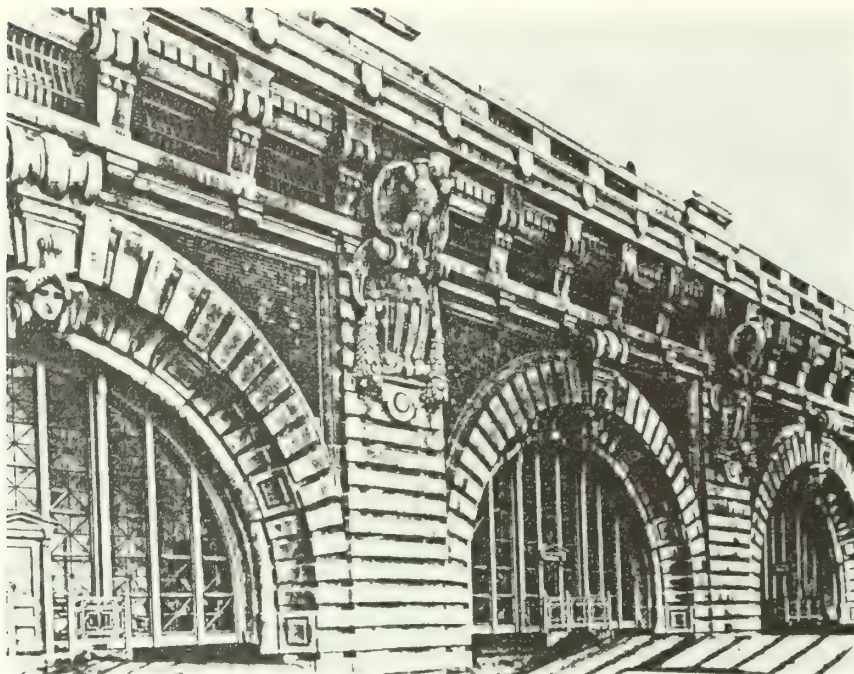
6. Detail of ironwork on parapet.



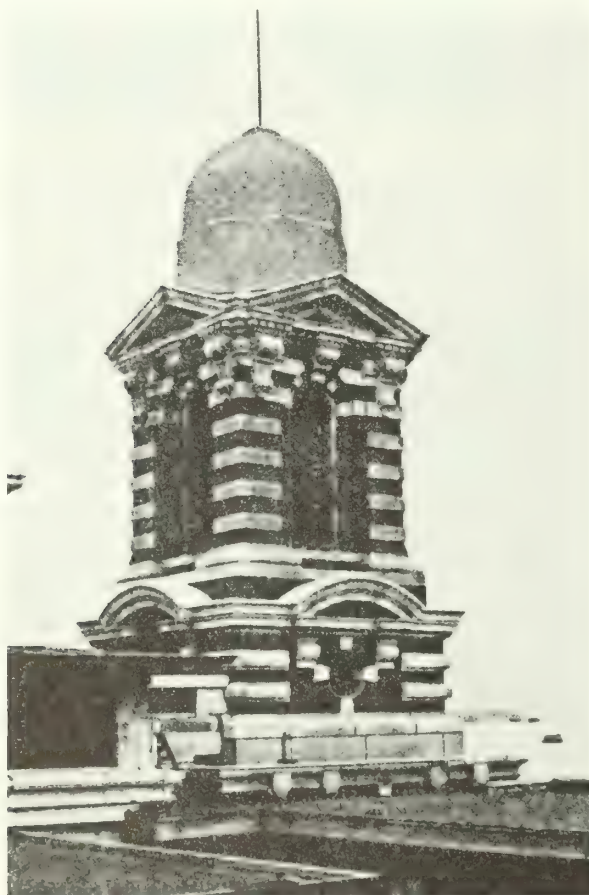
7. Clerestory window.



8. Terra cotta tile roof over registry room.



9. Detail of arches and cornice, north facade.



10. Tower.

lintels, keystones and quoins. Above these openings are tall arches filled with overlapping terra-cotta half circle tiles below triangular pediments. The domes at the apex of the towers are presently covered with concrete. They were originally sheathed in molded copper and had copper covered spires.

The flat-roofed wings are five bays wide on the north and south and nine bays on the east and west (photos 12 and 13). The limestone-trimmed, Flemish bond red brick walls are set on a limestone and rusticated granite base. The walls are framed by limestone quoins at all eight corners and are topped by limestone cornices above the second and third floors. Double doors with arched transoms pierce the centers of the west, south, and east elevations and two bays of the north elevation (photos 14-16). Basement windows have four-light sash hinged on top. First floor window openings have nine-over-one double-hung wood sash in the center, a pivotal arched nine-light transom, and eight side lights. Three of these windows on the east elevation have metal grilles. Flat limestone quoins trim the windows and a projecting limestone belt course forms the sill. Second and third floor window openings have paired four-over-four double-hung wood sash with two-light transoms and are surrounded by limestone quoins, keystones and horizontal bands at the sill and lintel levels. Windows on the second floor have projecting limestone sills supported on block modillions. The wings have flat roofs covered with gravel, built-up, and concrete fill.

The single story railroad ticket office abuts the center of the north facade (photo 17). The east elevation is five bays wide (photo 18). Each bay is marked by cast-iron Tuscan columns and contains three single-light wood windows with molded copper panels below the eight-light



11. Southwest tower entrance.



12. East facade.



13. West elevation.



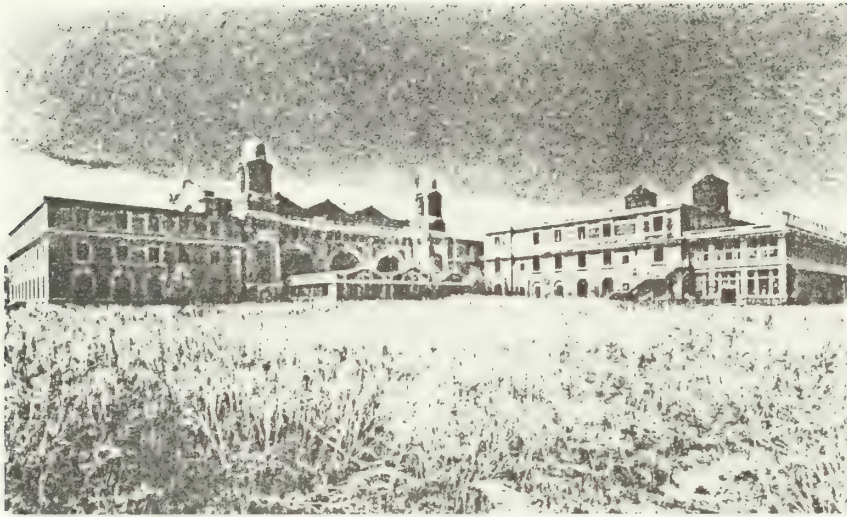
14. Southwest entrance.



15. East entrance.



16. North entrance.



17. View of north facade and railroad ticket office, baggage and dormitory building at right.



18. Railroad ticket office, east facade.

transoms above (photo 19). A double door and steel stair and balustrade fill the center bay. Rows of flat quoins at either end of the window bays and limestone cornice moldings set them off from the Flemish bond brick walls and brick and limestone parapets (photo 20).

The north facade roofline of the railroad ticket office is marked by three gables (photo 21). The smaller gable at each end spans a three-bay section bounded by quoins and contains a semi-circular, quoin-trimmed clerestory window at the cornice line. The central gable also spans three window bays, but the center bay is enlarged to include four window units and double doors. A large clerestory window fills the center gable. The triple gable roof is covered with built-up and pierced by fourteen reinforced concrete and glass block skylights (photo 22). The latter were restored by The Ehrenkrantz Group in 1980.

The east and west wings are lit by a total of four two-story light courts, two in each wing. These have Flemish bond brick walls and a variety of fenestration types.

The building originally had elaborate ornamental copper flashing, cornices, cornice crestings, and decorative tower domes. At the present time copper elements are only in situ on the clerestory roof (photo 23). The rest of the copper has been removed by the National Park Service and will be restored (see Appendix E).

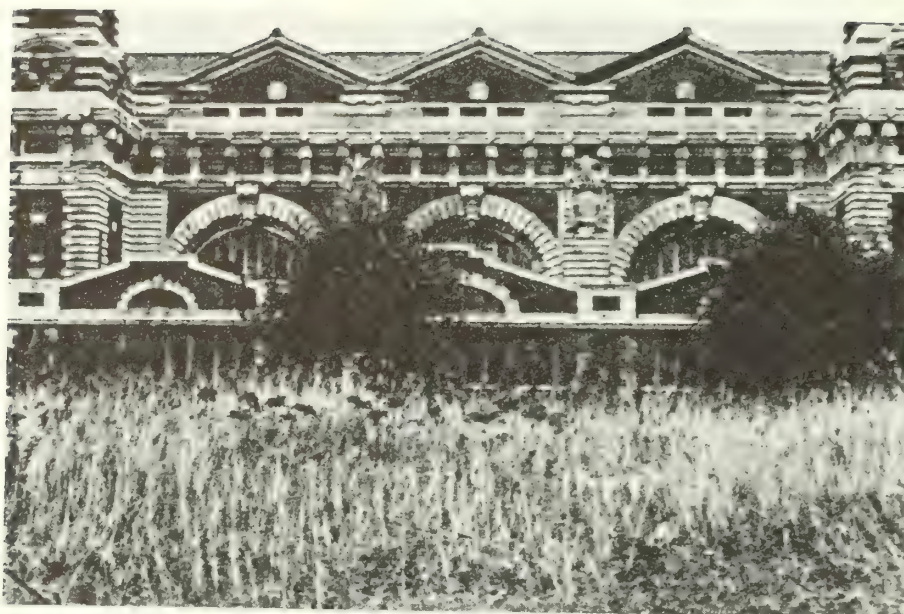
The main building is connected by enclosed passageways to the kitchen and laundry building on the west and to the baggage and dormitory building on the north.



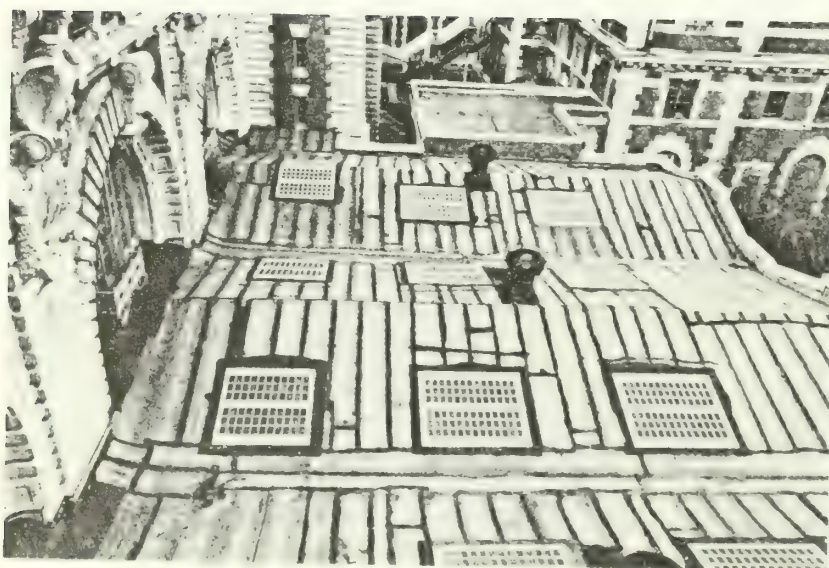
19. Detail of cast-iron columns and windows, railroad ticket office.



20. Railroad ticket office, northeast corner.



21. Railroad ticket office, north facade.



22. Railroad ticket office roof with skylights.

Exhibits 1 through 3 depict the exterior elevations. Exhibits 4 and 5 show the elevations of the light courts. Exhibit 6 is the roof plan.

b. Existing Conditions²

1. Historical Background

The following observations result from a review of the historical photographs and building records documenting the exterior of the main building, particularly for the periods 1902-1912 and after 1978 (See Appendix C). From this study, it is clear that the deterioration of the exterior began shortly after the building's completion in 1900 and has accelerated over time as a result of poor materials selection, faulty craftsmanship, and deferred maintenance.

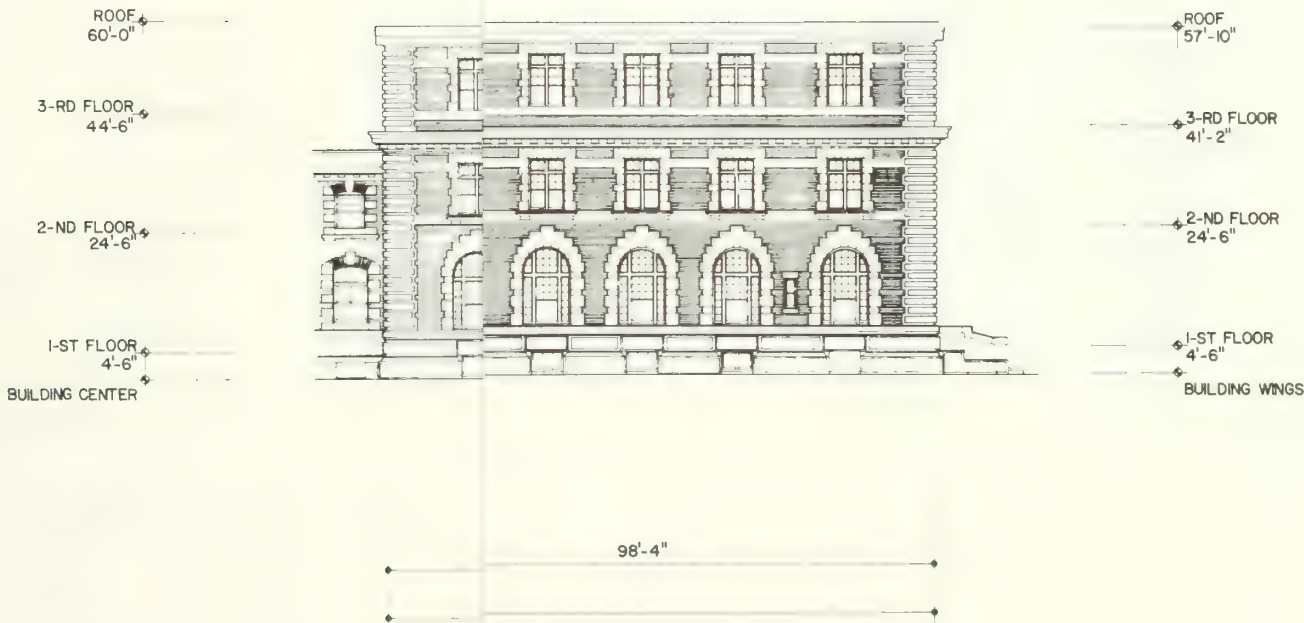
At least two major factors should be considered in understanding the deterioration mechanisms at Ellis Island. First, the building's unique geographic location in New York harbor has created specialized microclimatic conditions which have acted adversely against exterior surface materials. The structure's existence in a marine environment, its unprotected exposure to high winds (particularly from the north during the winter months), fog, salts, intense solar radiation, condensation, and other harsh weathering conditions such as those of marine winter, have left the building's exterior open to constant and corrosive forces. Among these, moisture and salt penetration -- in the form of rain and fog -- and solar

²Based on Frank Gerard Matero, "Exterior Conditions Study: Main Building", 1984, pp. 3-4. On file at the office of BBB/ANF in New York.

radiation seem to have been primary agents for many of the deterioration mechanisms observed.

The second problem relates to exterior building materials and their installation as such. According to the existing building records, the construction on the main building was wrought with problems owing to poor materials selection, bad craftsmanship, and the general inconvenience of the island site. As early as 1899, disfiguring efflorescence on the unfinished brickwork was noted and traced to the Rosendale cement used in the bedding mortar. Although the cement proved to be the source of the problem, the same mortar mix was nevertheless used to complete the building. In addition, early site reports make constant reference to the "ragged and unworkmanlike brickwork and large and irregular joints, patched and chipped stone and an absence of (stone) anchors and dowels". Early photographs from the south facade parapet (1909-1912) and examination of the exterior masonry verify many of these early complaints, particularly evident in the upper stories where original stone patches and defective brickwork can still be observed. The records also indicate that after the completion of the brickwork, the walls were cleaned down only once rather than twice as was specified.

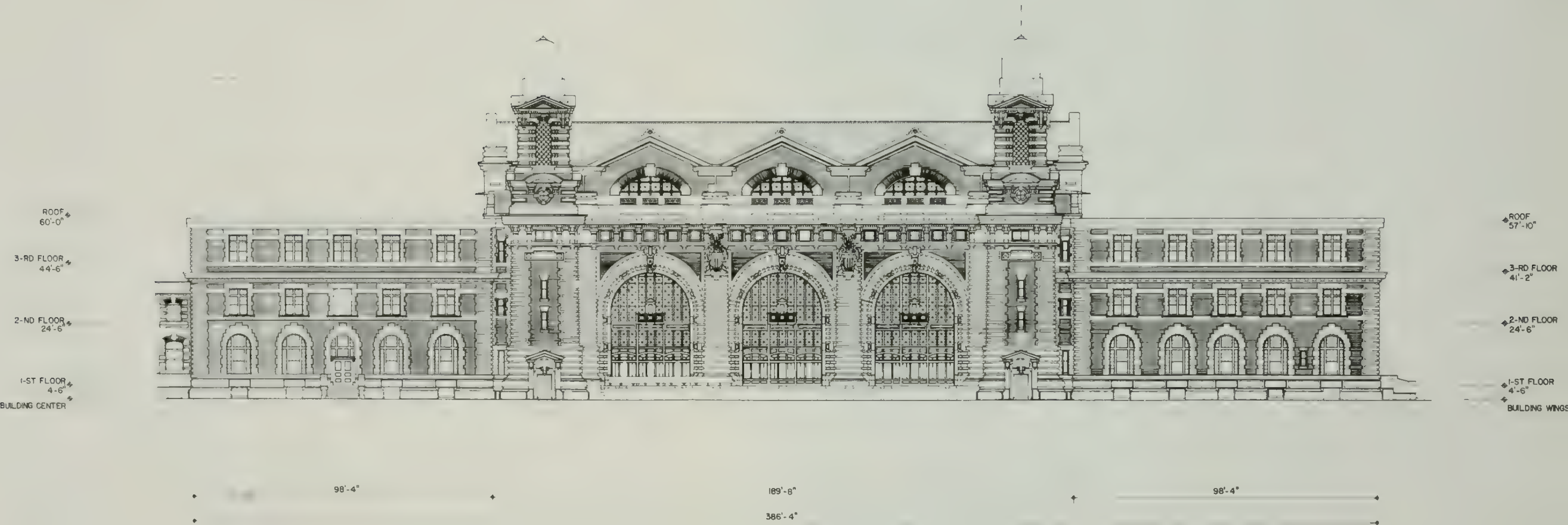
By 1901 the building was already proving inadequate in plan as well as in construction. As a result of the need for increased space and the necessity for continual repairs to the leaking roofs and upper stories, the building was continually remodeled, enlarged, and repaired for the next fifty years. While most of this work involved interior alterations, several contracts for exterior work were undertaken including: the repointing of the buildings in 1912; the replacement of the main pavilion's original copper roof with a tile roof in 1913;



ELLIS ISLAN
MAIN BUILDING

"AS FOUND" DRAWING
EXISTING CONDITIONS

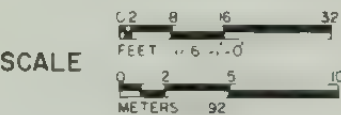
AUGUST 1983



**ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK / NEW JERSEY**

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

SOUTH ELEVATION



**"AS FOUND" DRAWING
EXISTING CONDITIONS**

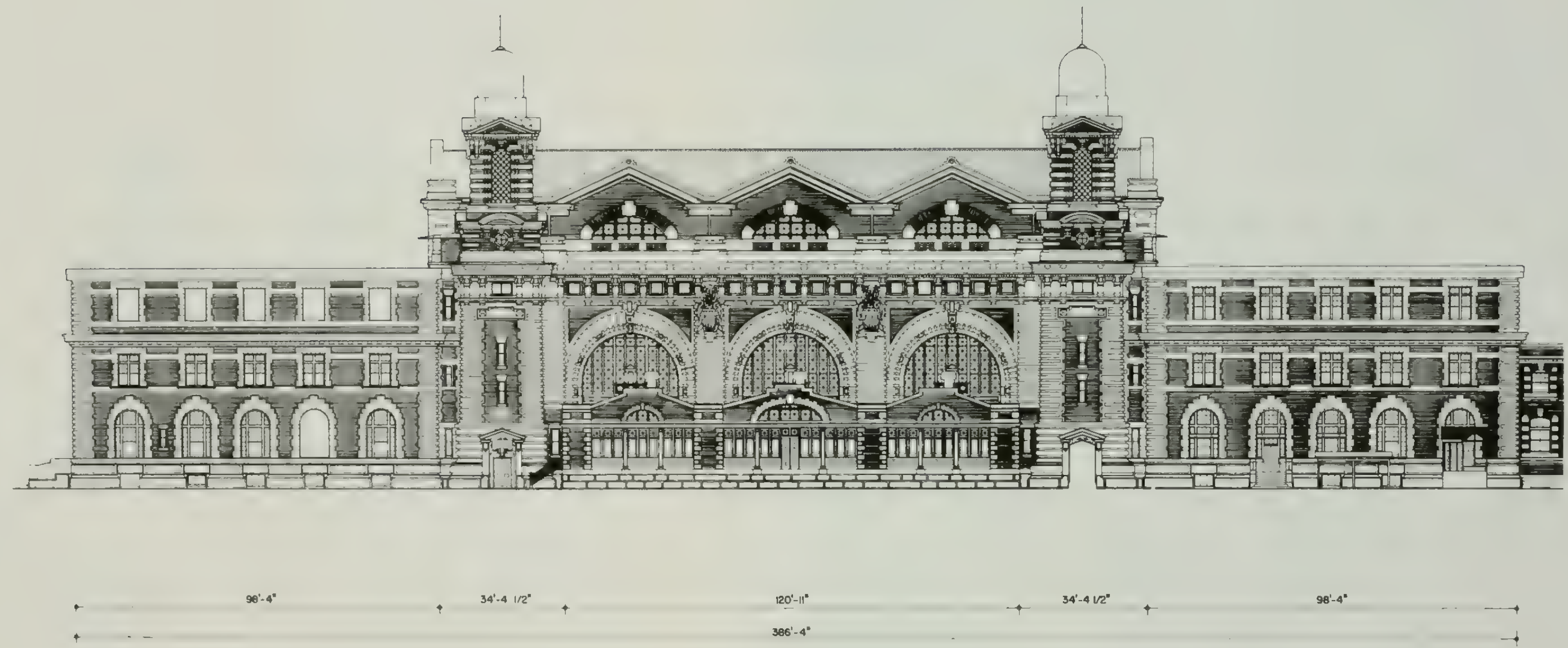
AUGUST 1983



ELLIS ISLAND
MAIN BUILDING

"AS FOUND" DRAWING
EXISTING CONDITIONS

AUGUST 1983



ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

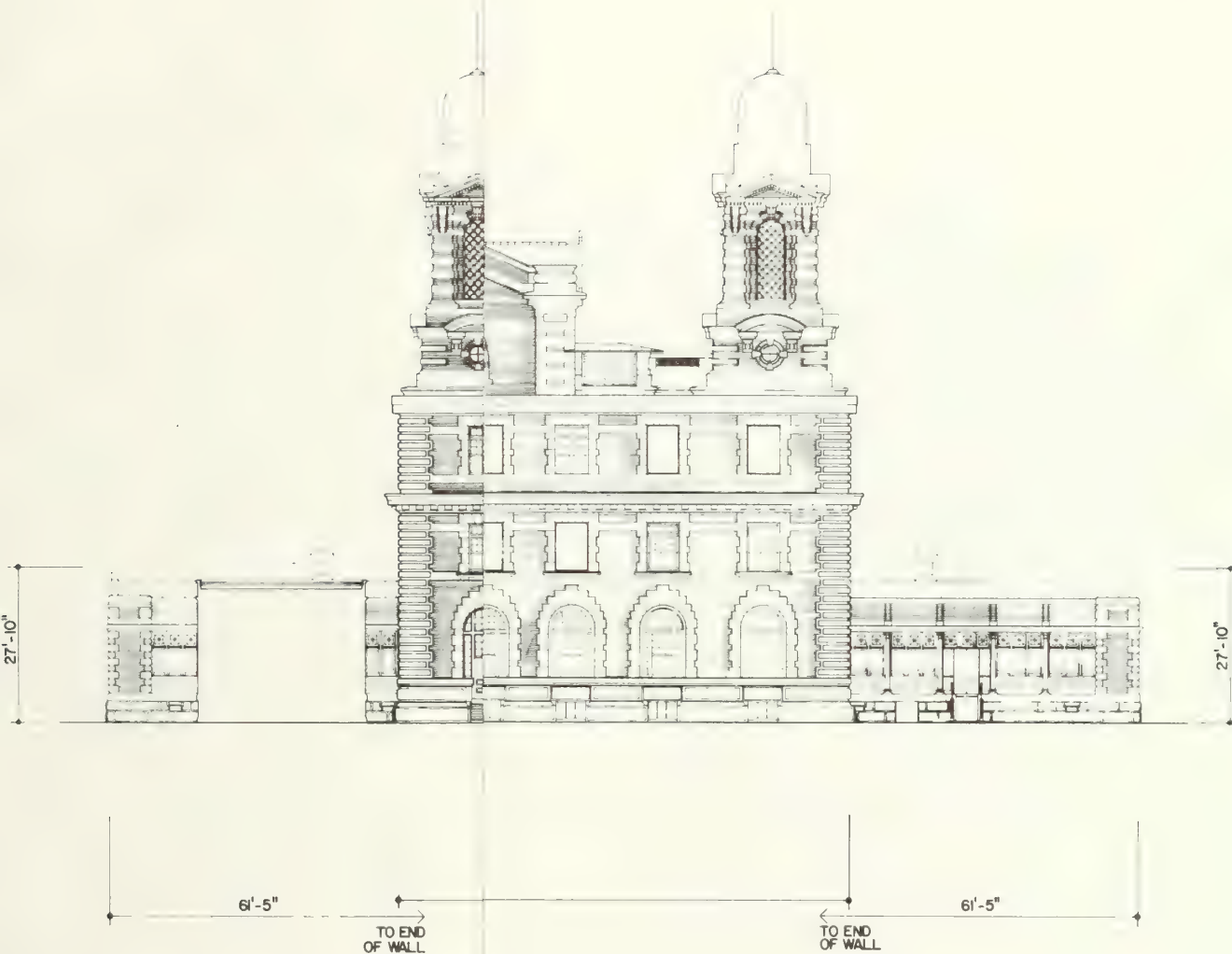
NORTH ELEVATION



356 | 26,002 / 22 of 70
DSC | JUL 88

"AS FOUND" DRAWING
EXISTING CONDITIONS

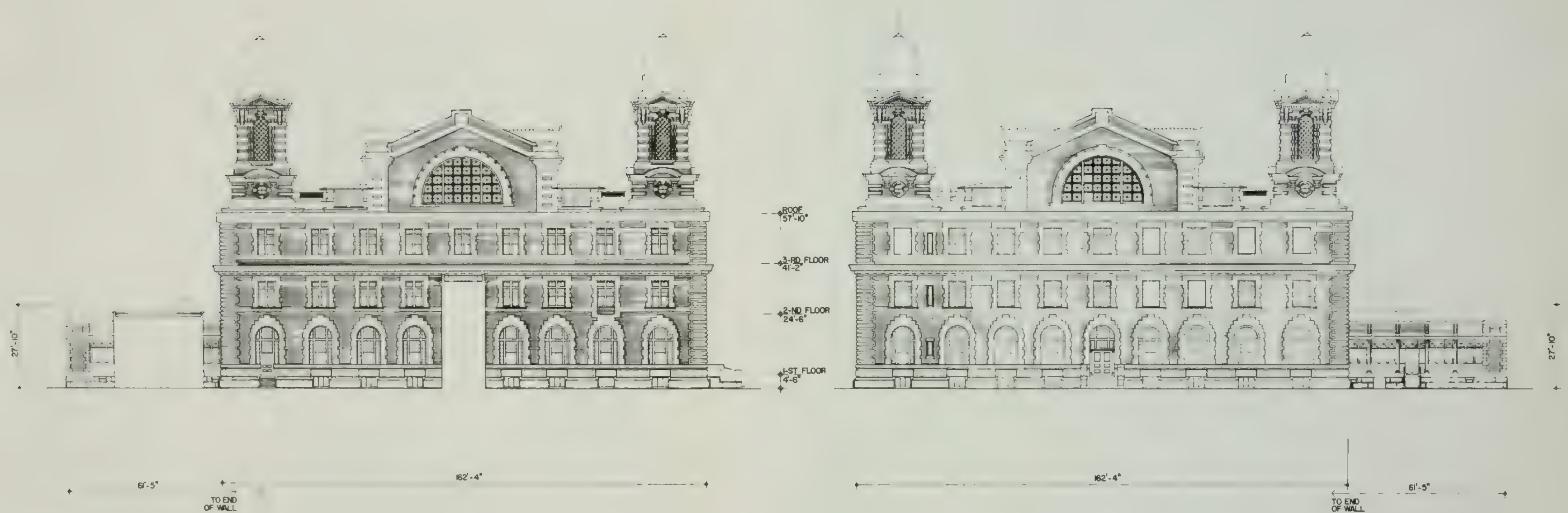
AUGUST 1983



**ELLIS ISLAND
MAIN BUILDING**

**"AS FOUND" DRAWING
EXISTING CONDITIONS**

AUGUST 1983

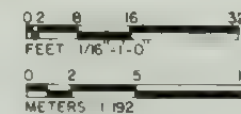


**ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK / NEW JERSEY**

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

WEST AND EAST ELEVATIONS

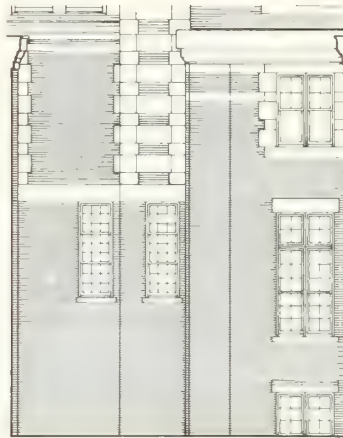
SCALE



356 | 26,002 / 23 of 70
DSC | JUL 88

**"AS FOUND" DRAWING
EXISTING CONDITIONS**

AUGUST 1983



WEST ELEVATION



WEST ELEVATION

UNITED STATES DEPARTMENT
OF THE INTERIOR

**NATIONAL PARK SERVICE
DENVER SERVICE CENTER**

ARCHITECTS

**BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD**
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

**MECHANICAL &
ELECTRICAL ENGINEERS**

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 24 of 70

| | |
|-----|--------|
| DSC | JUL 88 |
|-----|--------|

**MAIN
BUILDING
ELLIS
ISLAND**

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**

[illegible]

| | | | | |
|----|-----|-----------|------|-----|
| mk | sht | REVISIONS | date | ini |
|----|-----|-----------|------|-----|

| | |
|-----------|-------|
| DESIGNED: | DATE: |
|-----------|-------|

| | |
|--------|--------------|
| DRAWN. | TECH REVIEW. |
|--------|--------------|

KEY PLAN



| | |
|----------------|------|
| TITLE OF SHEET | 8-10 |
|----------------|------|

TITLE OF SHEET
ELEVATIONS OF
EAST LIGHTCOURTS

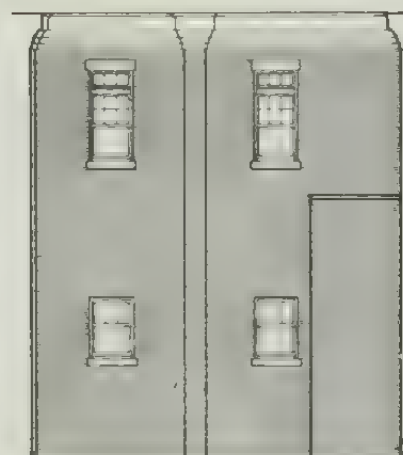
| | |
|---------------|-------------|
| SUB SHEET NO. | DRAWING NO. |
|---------------|-------------|

EX-39

PKG.
NO. _____



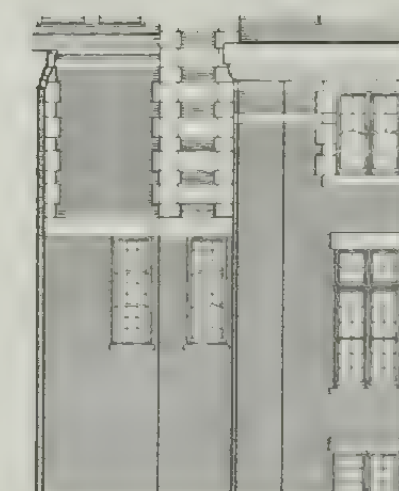
NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION

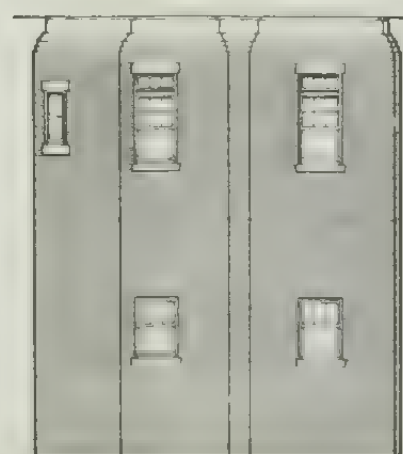


WEST ELEVATION

SOUTHEAST LIGHTCOURT



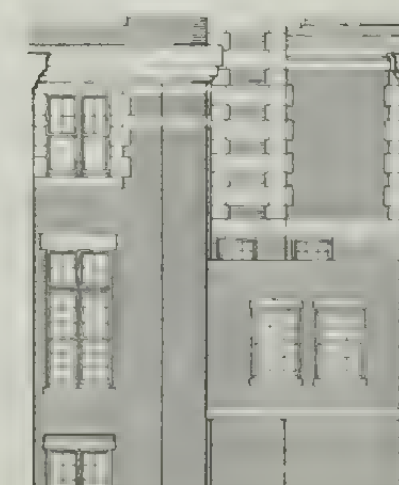
NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION



WEST ELEVATION

NORTHEAST LIGHTCOURT

UNITED STATES DEPARTMENT
OF THE INTERIORNATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3860

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 26,002 / 24 of 70

DSC JUL 88

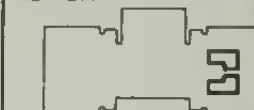
MAIN
BUILDING
ELLIS
ISLANDSTATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk shl REVISIONS date

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN

TITLE OF SHEET
ELEVATIONS OF
EAST LIGHTCOURTS

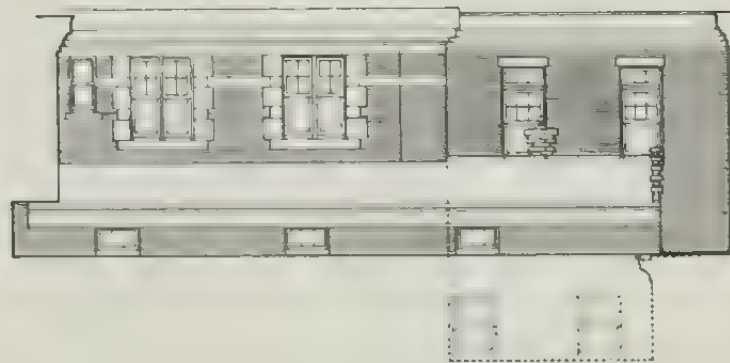
SUB SHEET NO DRAWING NO

EX-39

PKG.
NO SHEET
OF



NORTH ELEVATION



SOUTH ELEVATION

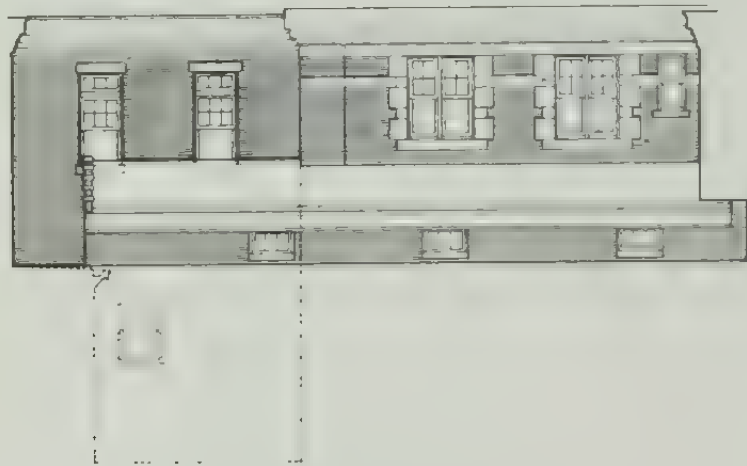


WEST ELEVATION

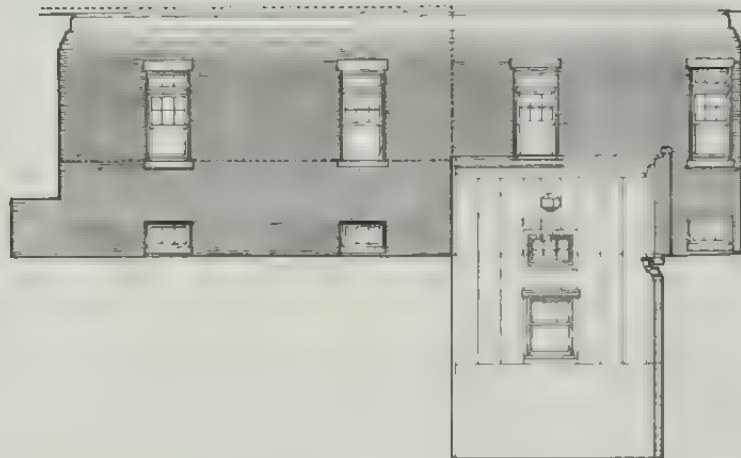


EAST ELEVATION

NORTHWEST LIGHTCOURT



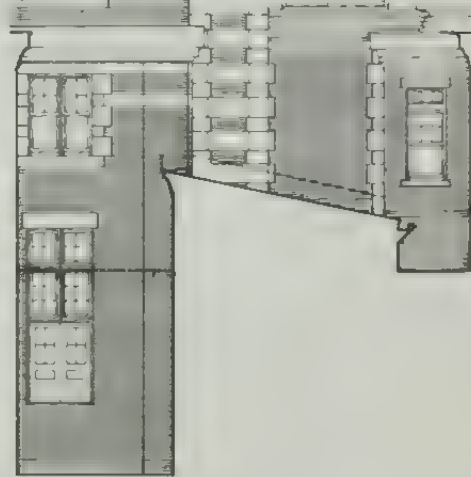
NORTH ELEVATION



SOUTH ELEVATION



WEST ELEVATION



EAST ELEVATION

SOUTHWEST LIGHTCOURT

UNITED STATES DEPARTMENT
OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS
BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3880

STRUCTURAL ENGINEERS
ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS
SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT
BRUCE KELLY

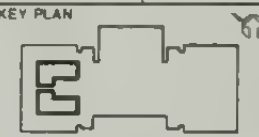
SITE ENGINEERS
LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT
PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 25 of 70 |
| DSC | JUL 88 |

**MAIN
BUILDING
ELLIS
ISLAND**
STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| REV | DATE | REVISIONS | DATE |
|----------|------|-------------|------|
| DESIGNED | | DATE | |
| DRAWN | | TECH REVIEW | |

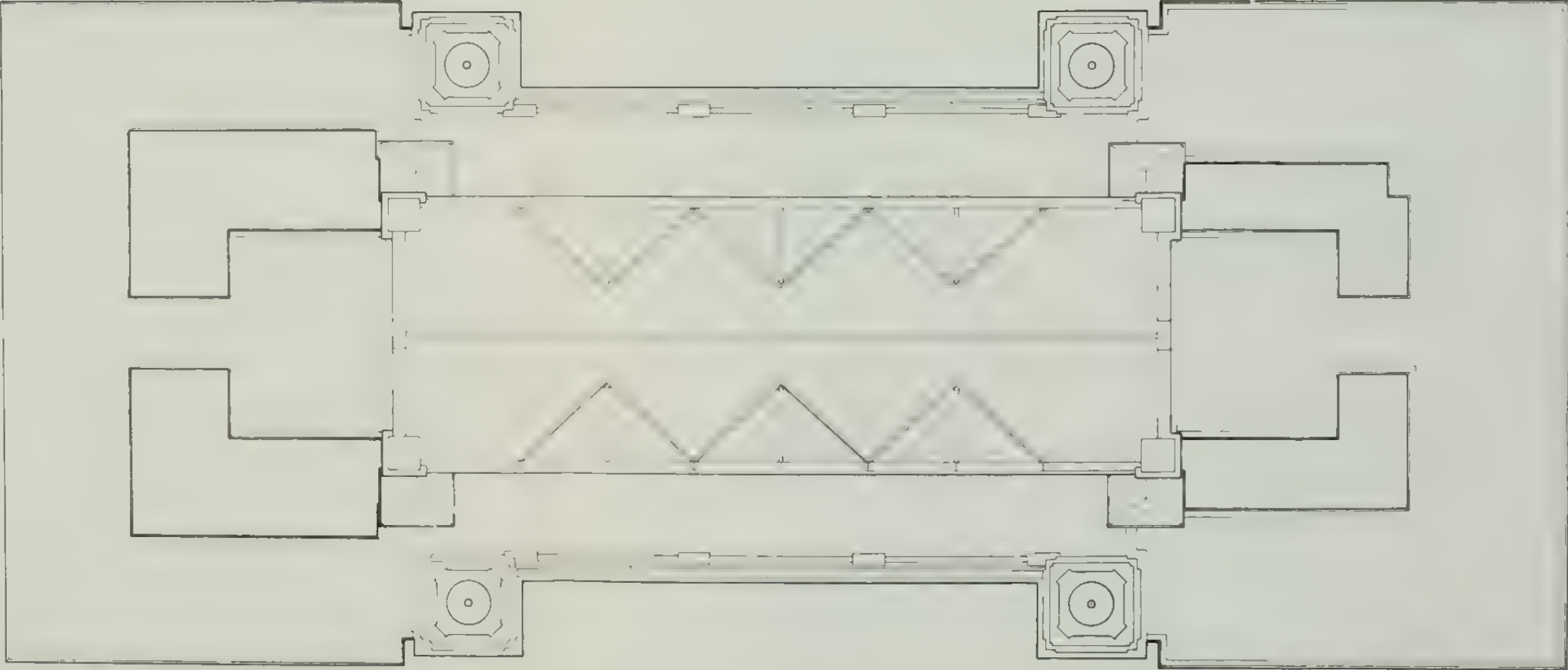


TITLE OF SHEET
**ELEVATIONS OF
WEST LIGHTCOURTS**

SUB SHEET NO DRAWING NO

EX-40 PKG NO SHEET OF

| | |
|-----------|----------|
| PKG NO | SHEET |
| _____ | _____ |
| _____ | _____ |
| _____ | OF _____ |



ROOF PLAN

UNITED STATES DEPARTMENT
OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS
BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3980

STRUCTURAL ENGINEERS
ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS
SYBKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT
BRUCE KELLY

SITE ENGINEERS
LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT
PROFESSOR FRANK MATERO

356 | 26,002 / 26 of 70
DSC | JUL 88

**MAIN
BUILDING
ELLIS
ISLAND**
STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk shl REVISIONS date by

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN



TITLE OF SHEET 1/16" = 1'-0"

ROOF PLAN

SUB SHEET NO DRAWING NO

EX-5

PKG
NO
SHEET
OF

the repair of the roofs, gutters and cornices of both the east and west wings in 1925 and again in 1926. In 1932, an extensive exterior program involved the reflashing and recovering of the north roof of the west wing and the replacement of its skylights, the renewal of house drain lines and concealed roof leaders, and the replacement and repair of the roofs and related appurtenances of the central clerestory. In addition, this program called for the replacement of the copper lining of the cornices of the main roof, the repair of the second story cornice and related flashing of the east and west wings, general painting and repointing, and chemical or abrasive cleaning of the limestone on the south facade. The most recent exterior work, undertaken by The Ehrenkrantz Group in 1980-1982, involved the selected repointing, stone repair, and extensive consolidation and replacement of the wooden window frames and sash.

From this brief account of past exterior work, it is clear that inappropriately designed and/or installed water disposal systems was and continues to be a major problem. Early photographs of the south, west and east facades indicate that efflorescence and staining was already occurring below the wings' cornice as early as ca.1902-1905 and in the upper clerestory gable ends ca.1909-1912. Despite the numerous repairs to the roofs, gutters, leaders, cornices and related flashing, these moisture related problems have continued well into the present.

Taken collectively, the early photographic evidence and records of the many repairs made during the first three decades of this century demonstrate beyond a doubt that the present deterioration patterns and their distribution frequencies were already established soon after completion of the building. The present exterior

deterioration is nothing more than the accumulated results of earlier conditions exacerbated by the same aggressive environmental conditions already described and worsened by the absence of a cyclical maintenance program.

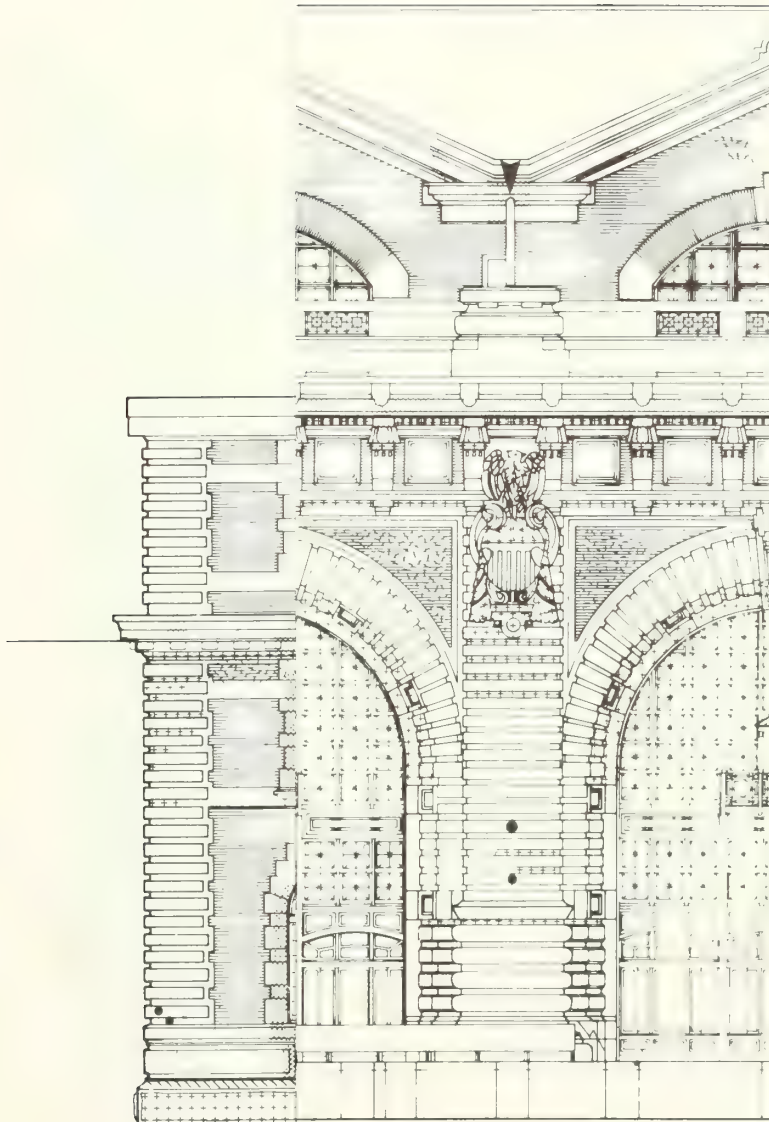
2. Conditions Survey³

A number of types of deterioration can be observed on the exterior of the main building. The locations of each type of deterioration are indicated on exhibits 7 through 12.

Cracking has occurred in the first and second story limestone window enframements, random areas of cornice work, and in isolated banding blocks. It is characterized by narrow fractures of variable length and direction, which range in width from 1/32 inch to 1/4 inch (photo 24).

In most cases, cracking appears to be the direct result of the expansive internal pressures of actively corroding iron or steel reinforcements and anchors. This process has been hastened by the subsequent action of increased water penetration and freeze-thaw cycling. In the case of the first and second story window enframements, the specific cracking of each individual limestone block can be directly attributed to the threaded iron bolts that were left in the stonework after the removal of the iron window grilles in the 1960's. In several areas, severe cracking has resulted in detachment and loss of large fragments of stone exposing both the bolts and their lead sleeves. The most extensive cracking has occurred in areas where excessive water penetration has saturated the walls.

³This section is based on a facade survey conducted by Frank Gerald Matero during the period from September 1983 to May 1984.



EXISTING CONDITIONS

- IRON STAINING
- COPPER STAINING
- CARBON SOOT STAINING
- EFFLORESCENCE
- FLAKING - SPALLING
- CRACKING
- LOSS
- MORTAR REPAIRS

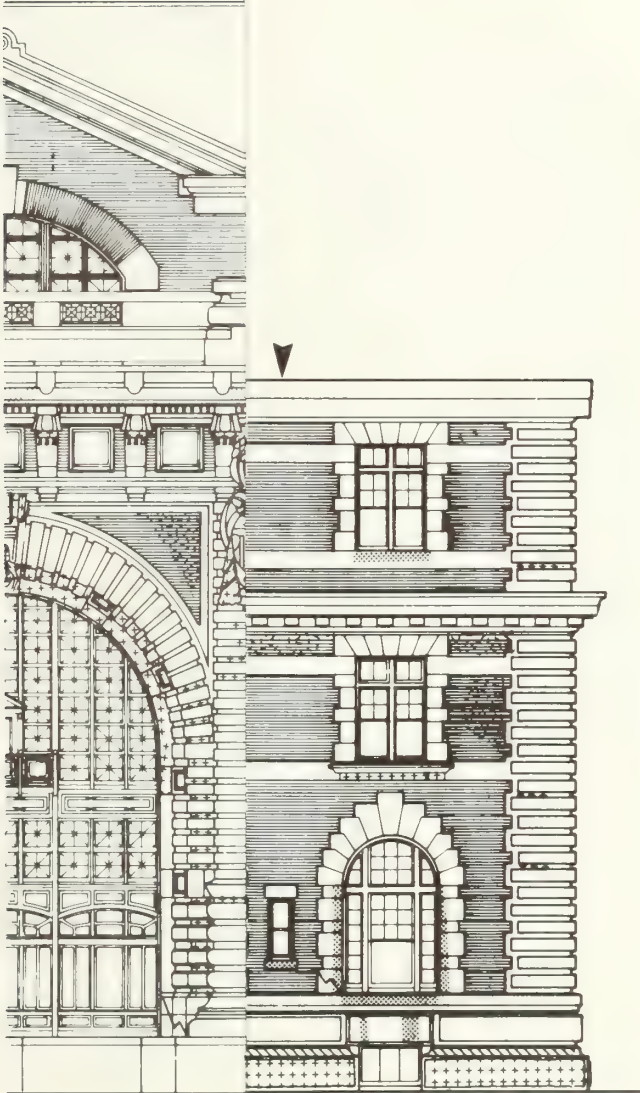


EXISTING CONDITIONS
SOUTH ELEVATION

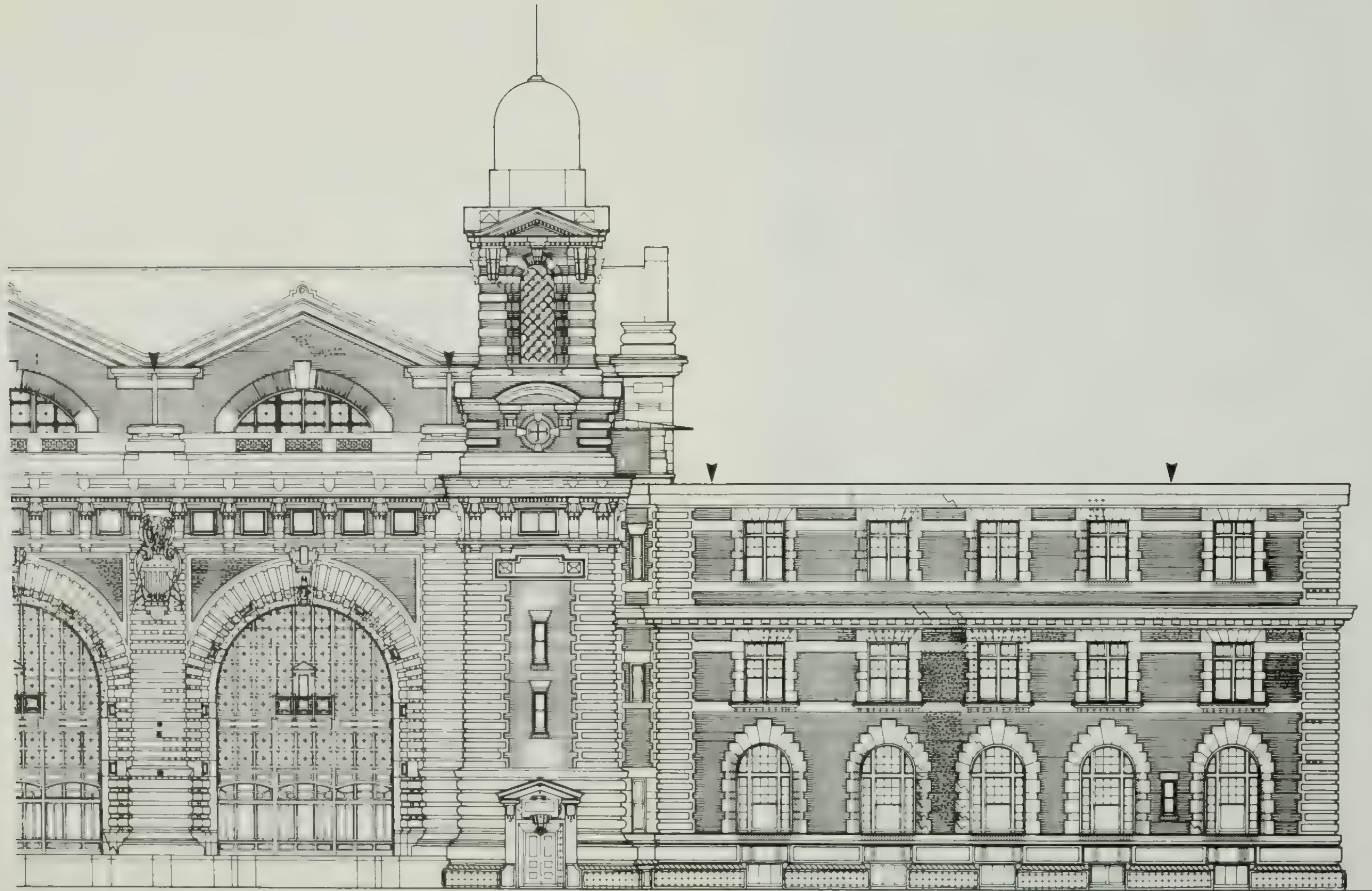
EXISTING CONDITIONS

- IRON STAINING
- COPPER STAINING
- CARBON SOOT STAINING
- EFFLORESCENCE
- FLAKING - SPALLING
- CRACKING
- LOSS
- MORTAR REPAIRS

356 | 26.002 / 27 of 70
DSC | JUL 88



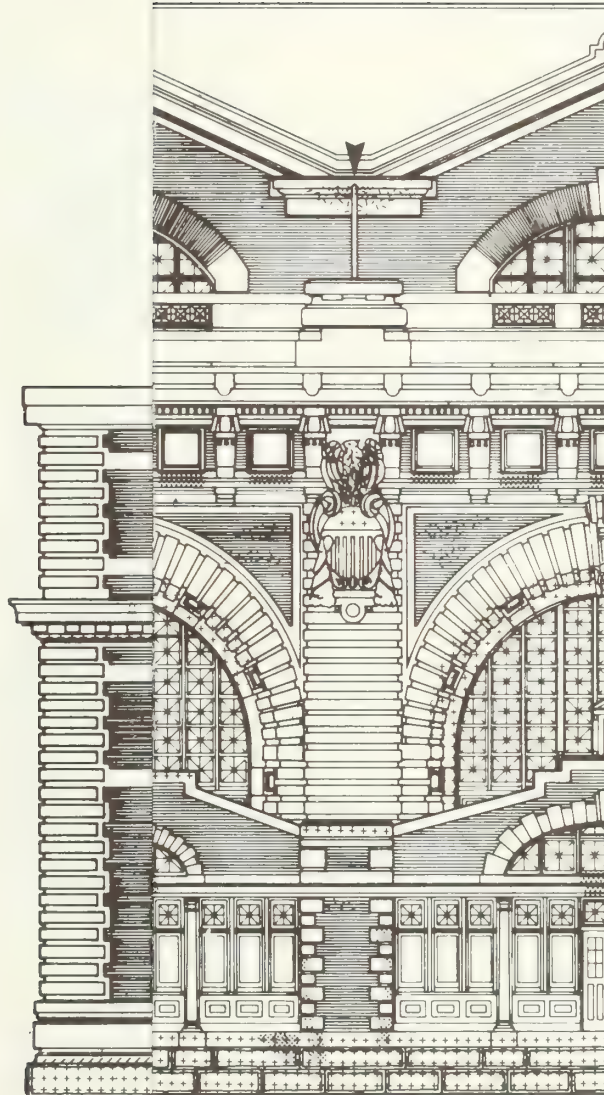
| EXISTING CONDITIONS | |
|---------------------|----------------------|
| | IRON STAINING |
| | COPPER STAINING |
| | CARBON SOOT STAINING |
| | EFFLORESCENCE |
| | FLAKING - SPALLING |
| | CRACKING |
| | LOSS |
| | MORTAR REPAIRS |



EXISTING CONDITIONS
SOUTH ELEVATION

356 | 26,002 / 28 of 70
DSC | JUL 88

| EXISTING CONDITIONS | |
|---------------------|----------------------|
| | IRON STAINING |
| | COPPER STAINING |
| | CARBON SOOT STAINING |
| | EFFLORESCENCE |
| | FLAKING - SPALLING |
| | CRACKING |
| | LOSS |
| | MORTAR REPAIRS |



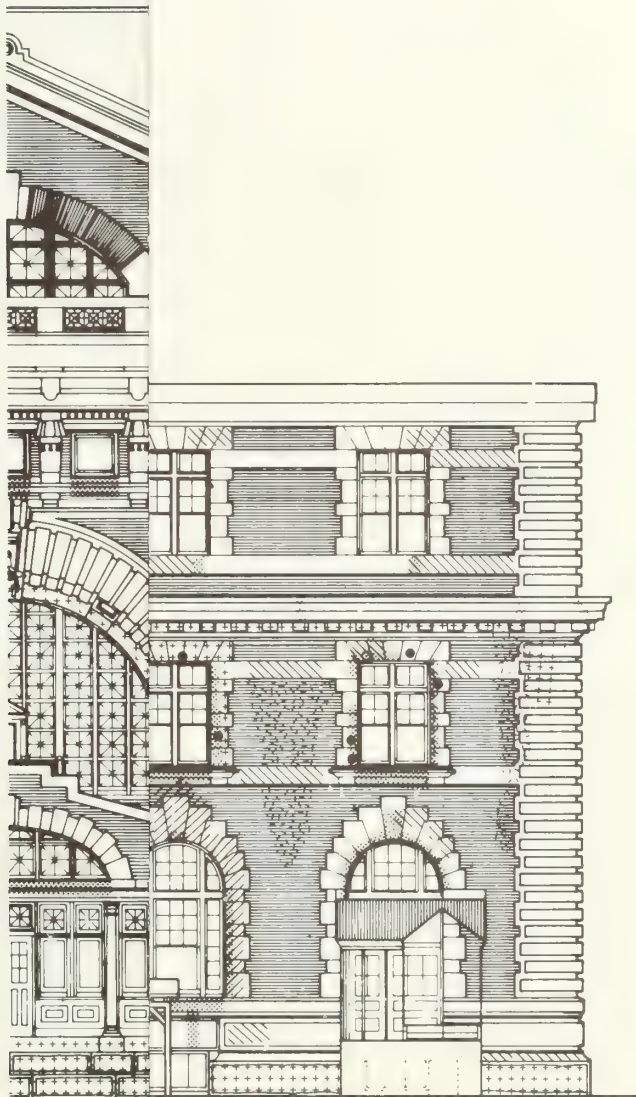
EXISTING CONDITIONS

- IRON STAINING
- COPPER STAINING
- +++ CARBON SOOT STAINING
- EFFLORESCENCE
- FLAKING - SPALLING
- CRACKING
- LOSS
- MORTAR REPAIRS



EXISTING CONDITIONS
NORTH ELEVATION

| EXISTING CONDITIONS | |
|---------------------|----------------------|
| | IRON STAINING |
| | COPPER STAINING |
| | CARBON SOOT STAINING |
| | EFFLORESCENCE |
| | FLAKING - SPALLING |
| | CRACKING |
| | LOSS |
| | MORTAR REPAIRS |



EXISTING CONDITIONS

- IRON STAINING
- COPPER STAINING
- CARBON SOOT STAINING
- EFFLORESCENCE
- FLAKING - SPALLING
- CRACKING
- LOSS
- MORTAR REPAIRS

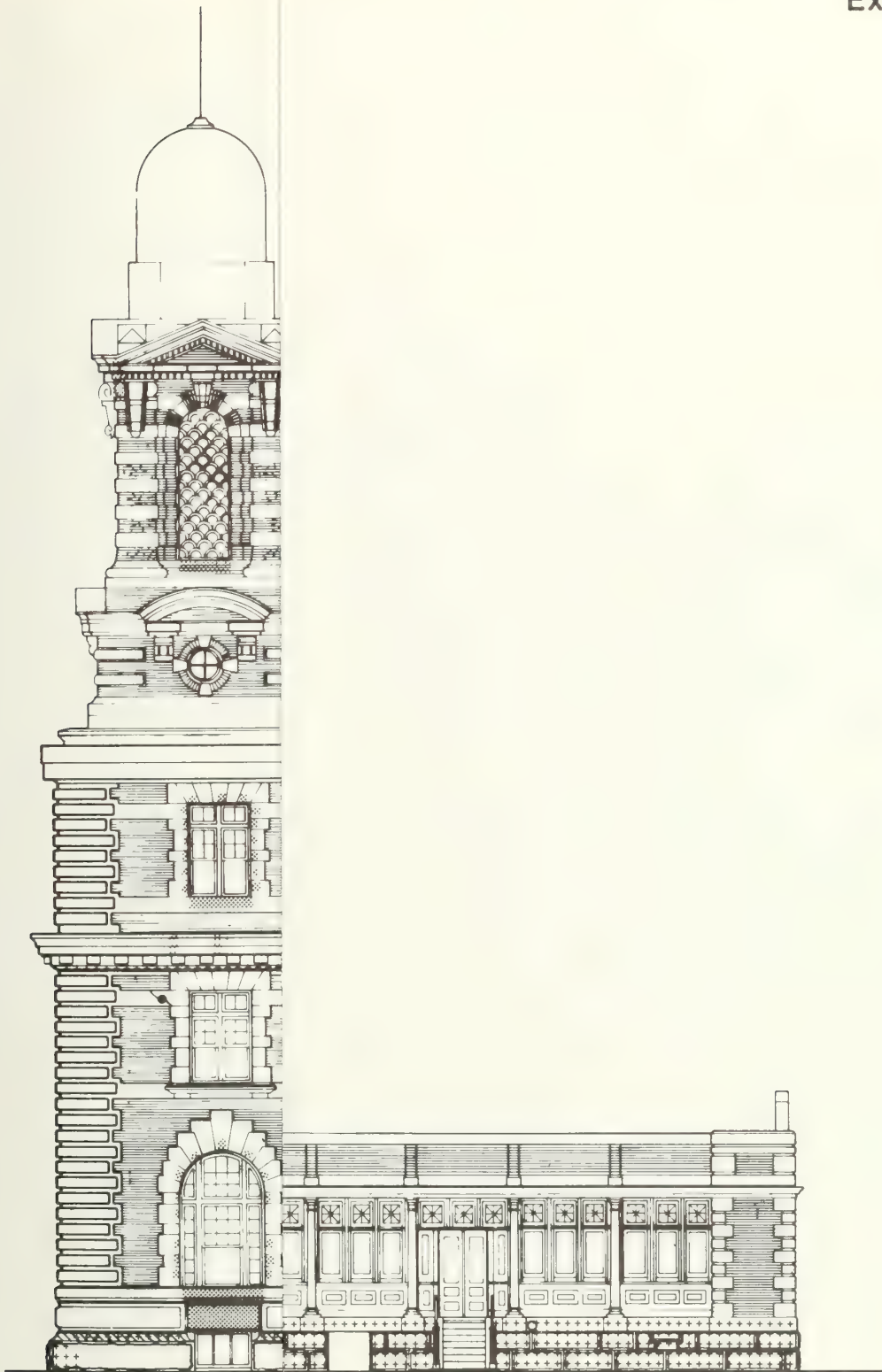
356 | 26,002 / 30 of 70
DSC | JUL 88



EXISTING CONDITIONS
NORTH ELEVATION

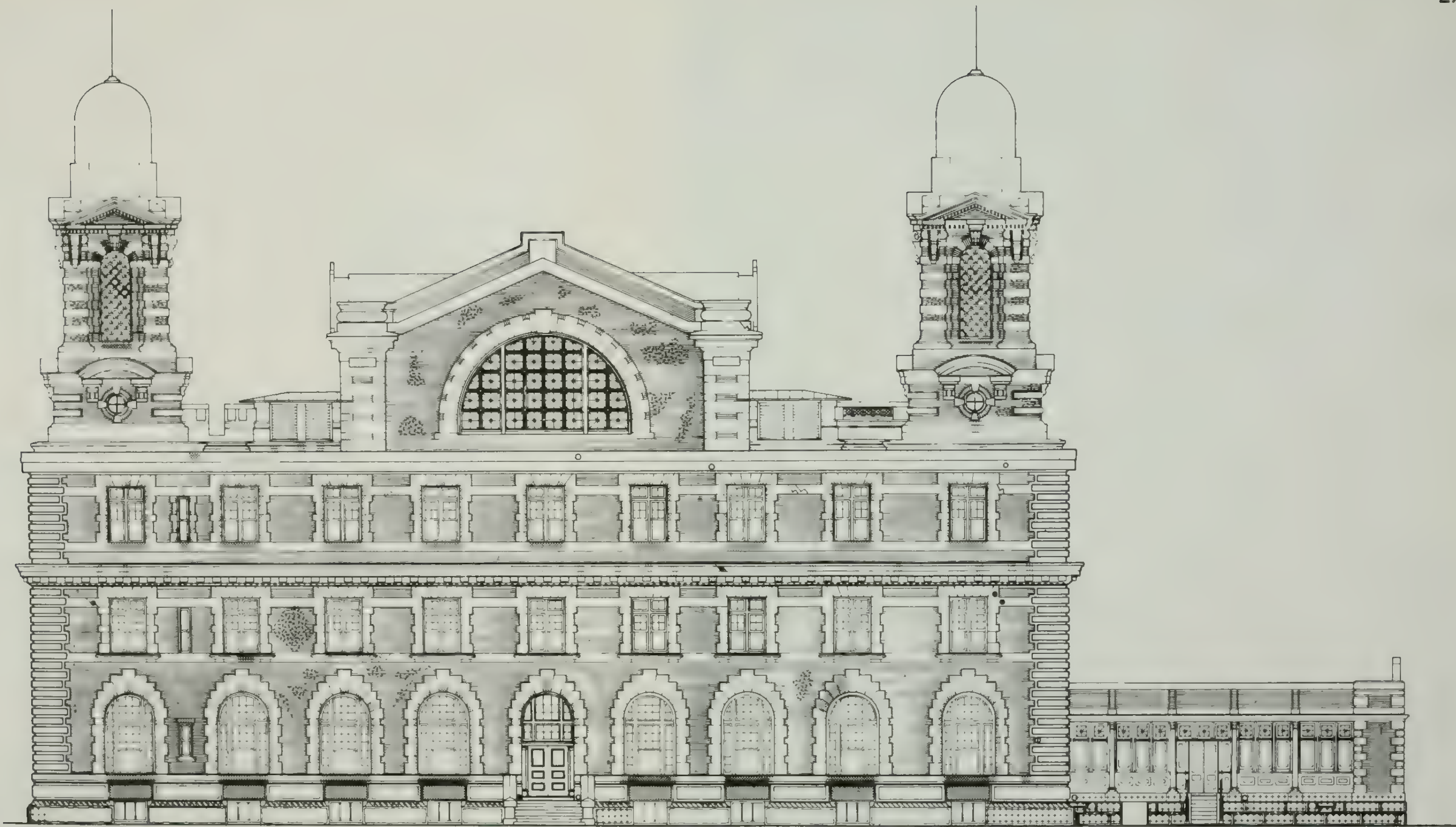
356 | 26,002 / 30 of 70
DSC | JUL 88

| EXISTING CONDITIONS | |
|---------------------|----------------------|
| | IRON STAINING |
| | COPPER STAINING |
| | CARBON SOOT STAINING |
| | EFFLORESCENCE |
| | FLAKING - SPALLING |
| | CRACKING |
| | LOSS |
| | MORTAR REPAIRS |



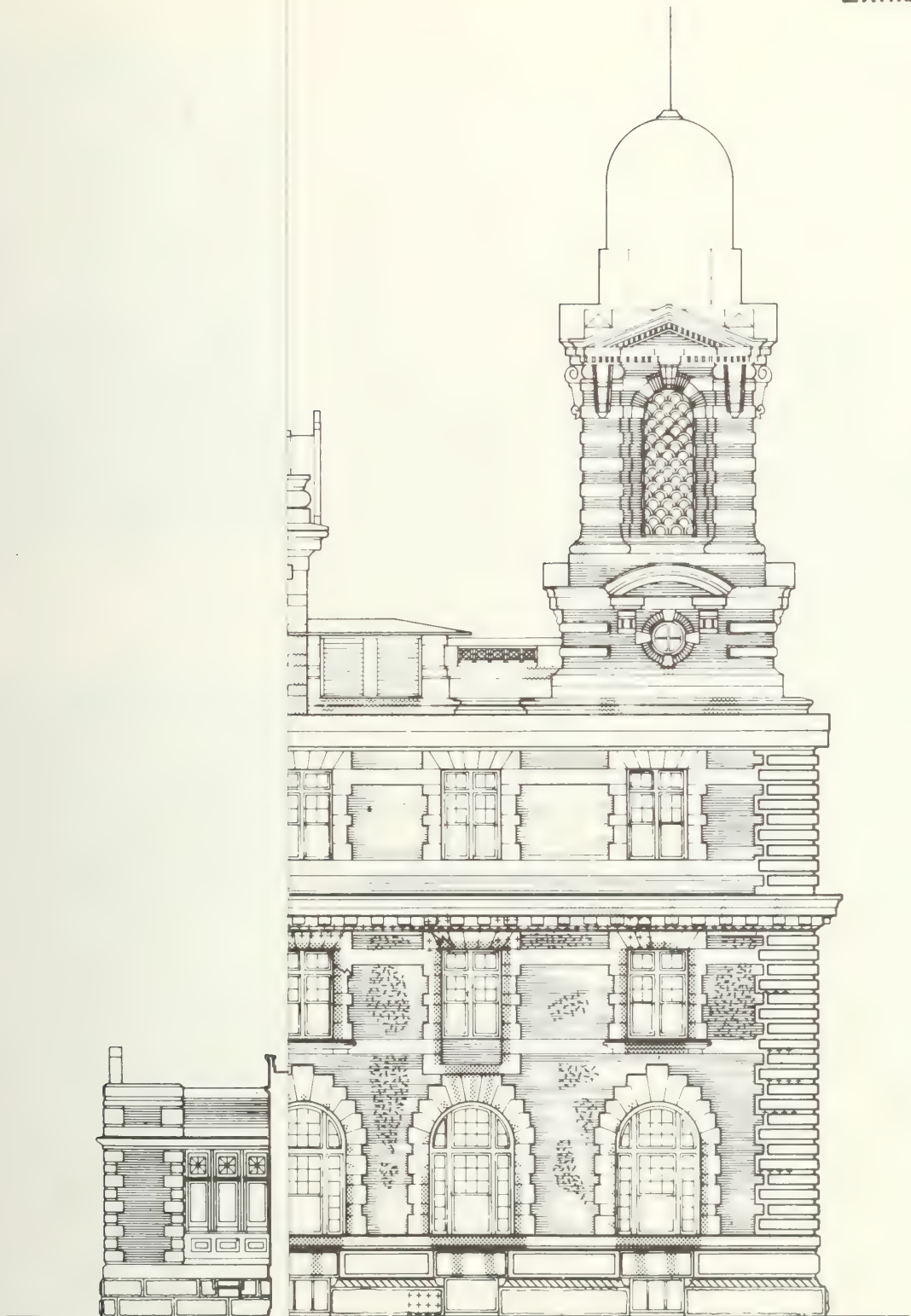
EXISTING CONDITIONS

-  IRON STAINING
-  COPPER STAINING
-  CARBON SOOT STAINING
-  EFFLORESCENCE
-  FLAKING - SPALLING
-  CRACKING
-  LOSS
-  MORTAR REPAIRS



EXISTING CONDITIONS
EAST ELEVATION

- EXISTING CONDITIONS
- IRON STAINING
 - COPPER STAINING
 - CARBON SOOT STAINING
 - EFFLORESCENCE
 - FLAKING - SPALLING
 - CRACKING
 - LOSS
 - MORTAR REPAIRS



EXISTING CONDITIONS

- IRON STAINING
- COPPER STAINING
- CARBON SOOT STAINING
- EFFLORESCENCE
- FLAKING - SPALLING
- CRACKING
- LOSS
- MORTAR REPAIRS



EXISTING CONDITIONS
WEST ELEVATION

| EXISTING CONDITIONS | |
|---------------------|----------------------|
| | IRON STAINING |
| | COPPER STAINING |
| | CARBON SOOT STAINING |
| | EFFLORESCENCE |
| | FLAKING - SPALLING |
| | CRACKING |
| | LOSS |
| | MORTAR REPAIRS |



23. Copper cheneau, clerestory roof.



24. Cracking at first story window enframement.

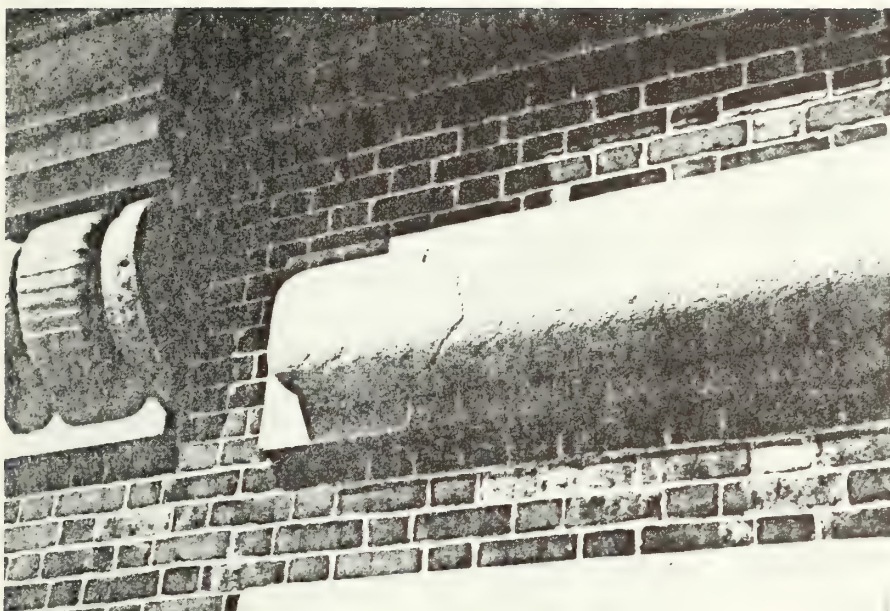
Causes for the isolated cracking of a small number of cornice blocks are less obvious although very likely attributable to the same internal corrosion; in this case, of the metallic anchors used to secure the blocks of stone to each other and the brick backing wall. (Construction drawings suggest that most of the stonework was masonry bonded with occasional anchors employed. To what extent these construction drawings reflect the actual situation is unknown since the records indicate "an absence of anchors and dowels" as specified in 1900).

One last situation of cracking, although by far the least encountered, involves random separation along the limestone's bedding planes.

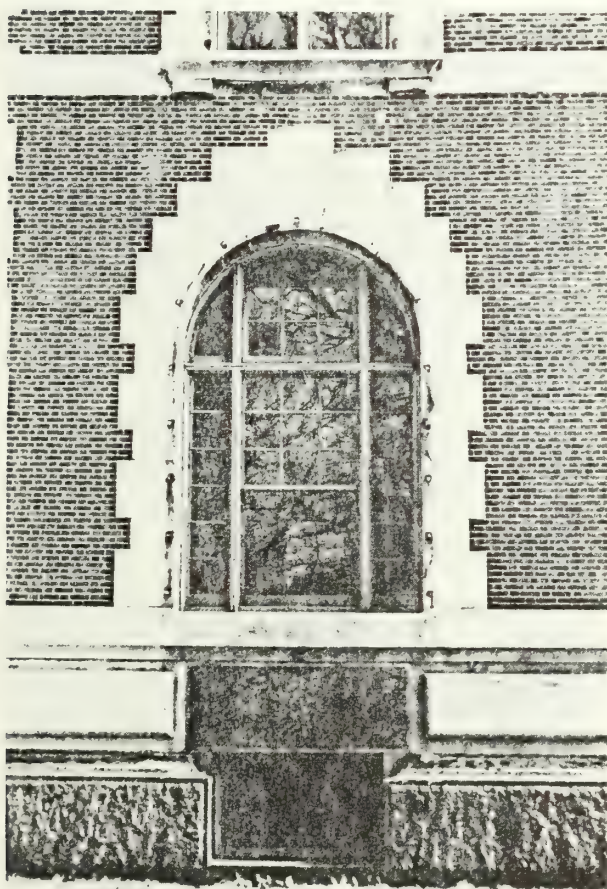
Erosion of stone through weathering has resulted in granular, uneven, discolored surfaces. This process is most pronounced on exposed projecting and horizontal limestone elements such as the third story parapet coping and projecting ornamental cornice brackets and sculpture (photo 25).

The differential weathering of the limestone can be directly attributed to the dissolution of the acid-soluble calcitic matrix of the stone and the resistance of the harder fossiliferous component. This condition is most advanced in areas of prolonged and direct rainwater contact.

Iron staining is primarily found on all previously grilled stone window enframements and sills and on the stonework directly below. It is characterized by unsightly orange-brown stains of aqueous iron oxide (photo 26).



25. Weathering on ornamental bracket and banding.



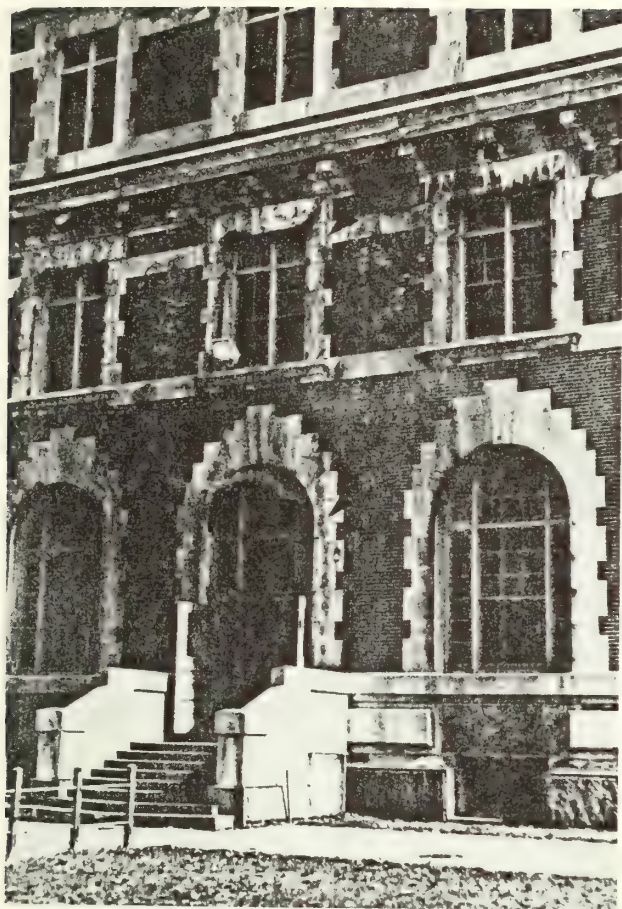
26. Iron staining on first floor window enframement which had previously had an iron grille. The anchor bolts from the grille are still extant.

In almost every case, iron oxide staining can be attributed to the corrosion of the grille anchor bolts. Staining patterns relate specifically to water flow over the limestone surrounds and sills (see first story windows and water table spandrels below).

Copper staining is located on the stonework and in the highly porous mortar joints directly below defective areas of the second story and main pavilion cornices. This unsightly greenish-blue staining of aqueous copper sulfate is always found in association with copper flashing (photo 27). In every case, this copper staining can be traced to faulty flashing in conjunction with cracked cornice stonework or open joints. This situation results in copper sulfate-containing run-off flowing across masonry areas below. Copper staining is most prevalent on the limestone and mortar joints due to the high porosity of these materials (as opposed to the granite and brick surfaces). Moreover, these stains highlight areas where water flow and penetration is most severe.

A black uneven staining is found on the limestone and granite in protected and semi-protected areas such as the cornice soffits (photo 28). In some cases, accumulative deposition has led to the formation of framboidal crusts of carbon soot, organic material, and calcium carbonate and calcium sulfate. This black crust is primarily a complex mixture of gypsum, carbon and other airborne particulates which are carried and deposited by wind and water (rain and fog). Areas of high exposure do not retain these surface deposits due to rain water washing.

Biological staining appears in protected damp areas of stone and brickwork. This mottled green, brown, or grey staining can be attributed to the growth of algae and fungi (photo 29).



27. Copper staining on stainwork.



28. Black crust on decorative sculpture.

Efflorescence is generally found on the brick and limestone trim in areas of severe water penetration subject to rapid evaporation. Common locations are the walls below the second story (intermediate) cornice (photo 30). These whitish crystalline deposits appear as either a greyish white mottling or dramatic crystalline growth formed below (cryptoflorescence) or on the masonry surface.

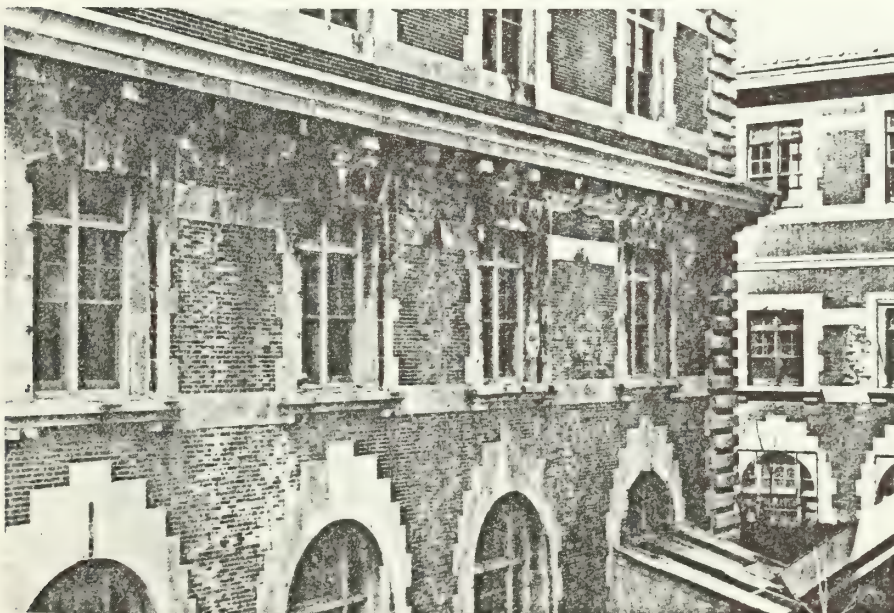
The surface and subsurface formation of various salts (in this case, both chlorides and sulfates) is due to the migration of aqueous solutions of these soluble salts from within the walls to the surface and the subsequent evaporation of water. The source of these salts appears to be the cements of the original building mortar as well as the salt-laden atmosphere of the island's marine environment. The formation of efflorescence is dependent on water migration and evaporation. Consequently most exterior efflorescence, and the related spalling and flaking it produces, can be observed in areas of the masonry where open joints, cracked stonework, or defective flashing and leaders have allowed water to penetrate deep within the wall. In addition, high porosity of the masonry and rapid evaporation due to wind and sun exposure have increased the formation of efflorescence in specific areas on the building.

A survey of historic photographs of the exterior from 1909 to the present and a review of the building documents reveal that efflorescence was an on-going problem even before the building was completed. Tests performed by Boring and Tilton identified the cementitious component of the mortar as the source of efflorescence.

Flaking, which is the detachment and loss of thin layers of the masonry surfaces (brick and stone), is



29. Biological staining in protected damp area.



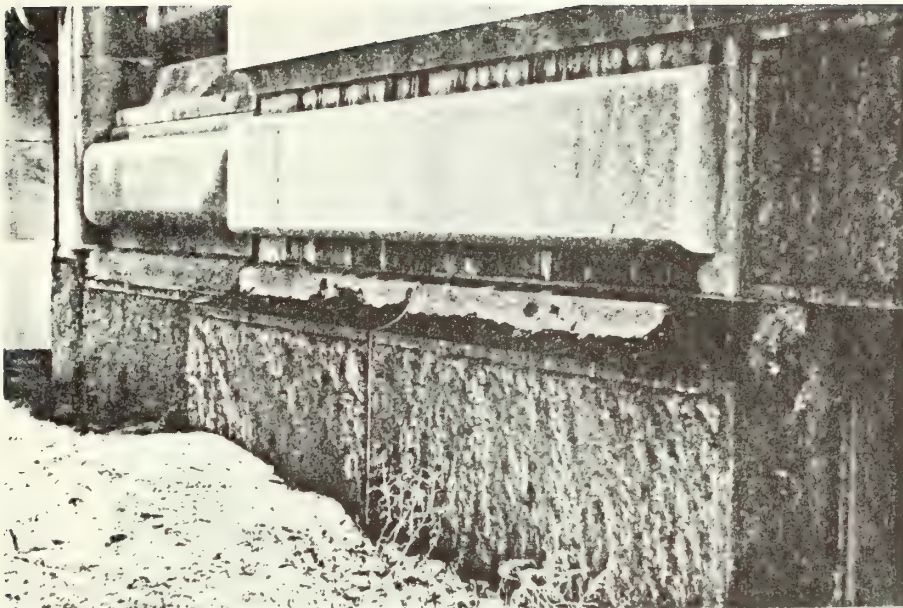
30. Efflorescence on the masonry surface.

located predominately on the granite cavetto of the raised basement (photo 31). It is also found in association with visible efflorescence on areas of the brick walls and limestone trim (photo 32).

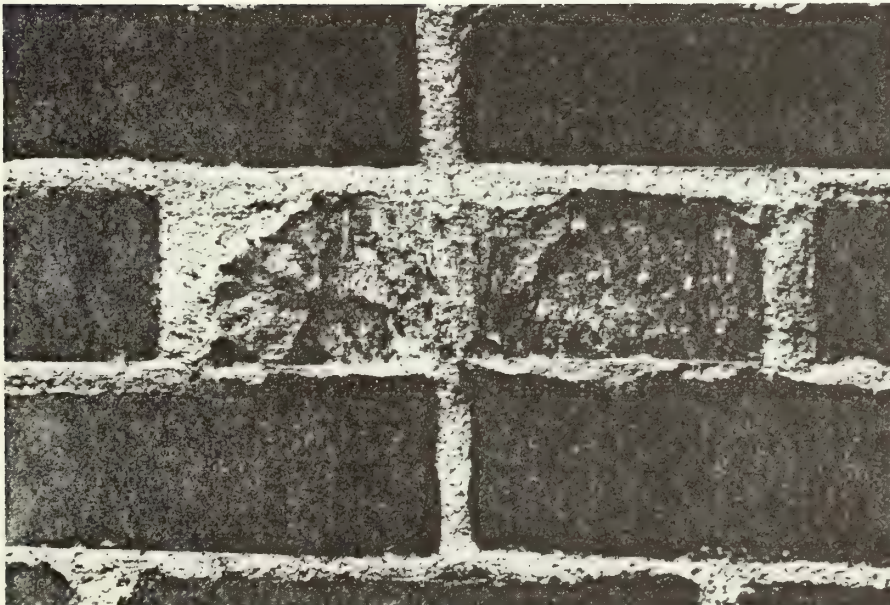
The continuous and uniform flaking of the upper cavetto of the granite basement is an interesting phenomenon and one worthy of special discussion. This extremely localized deterioration appears to be the result of the disruptive formation on the upper granite basement of calcium sulphate crusts (derived from the limestone above). This soluble crust together with carbon soot and other airborne particulates survives only in protected areas until its eventual detachment in a uniform and continuous flaking approximately 1 millimeter thick.

Unlike the unique situation described above, surface detachment and loss observed in specific areas of the brickwork and stone can be attributed to efflorescence and cryptoflorescence. These areas of salt formation and flaking occur in areas of excessive water penetration and subsequent intermittent drying such as below the second story cornice. The somewhat specific and seemingly random occurrence of individual brick and limestone block deterioration has much to do with the unique physical and chemical properties and location of each stone and brick.

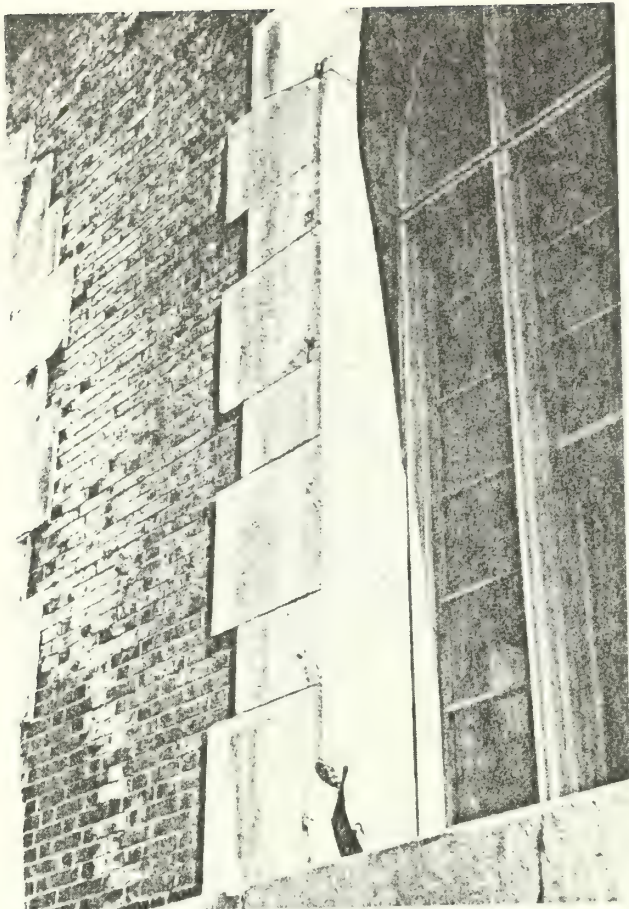
Deterioration caused by spalling is primarily restricted to isolated bricks and those limestone elements with externally applied iron/steel bolts and fasteners (photos 33-35). Spalling is characterized by significant material loss as a result of disruptive internal pressures. The latter are caused by expansive salt formation, freeze-thaw cycles, or by the corrosion of



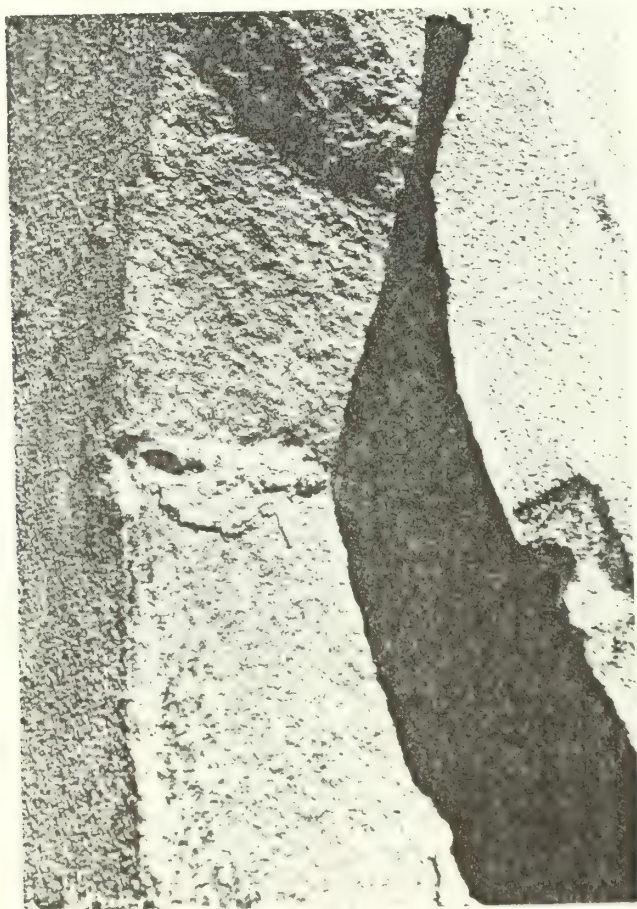
31. Flaking on the granite cavetto of the raised basement.



32. Flaking on brick wall.



33. Spalling at window
enframement with window
grille bolts.



34. Detail of spalling in
photo 33.

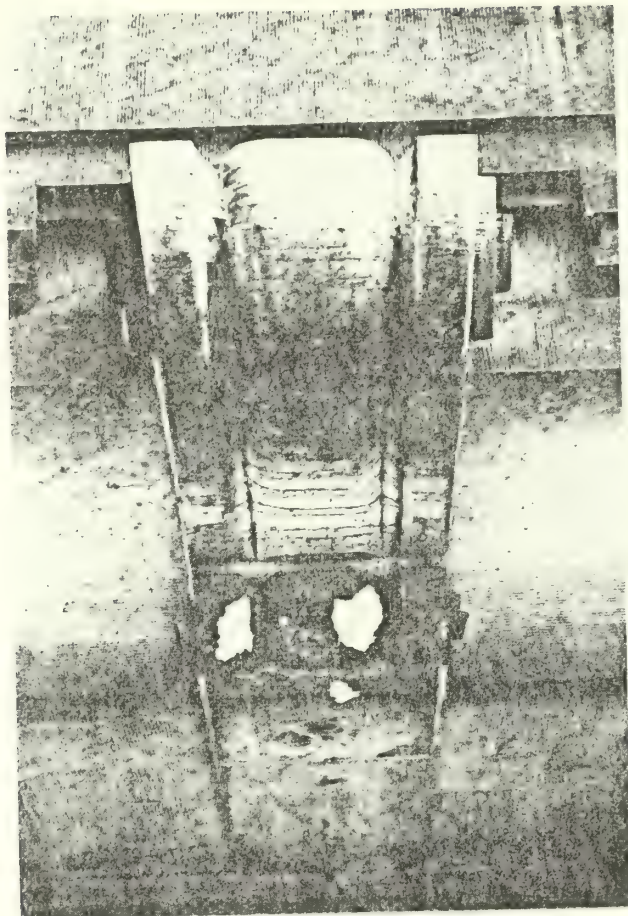
internal iron/steel anchors or fasteners. While most large scale loss is the result of spalling, several areas of detachment and loss appear to be the direct result of impact damage either as deliberate vandalism or misuse.

To date, a large number of patches and mortar fills exist on the building's exterior (photos 36-38). These represent a long history of repairs and alterations beginning with the repair of scarred defective limestone during the original construction. The most recent masonry repairs were undertaken by the Ehrenkrantz Group in 1980-1981.

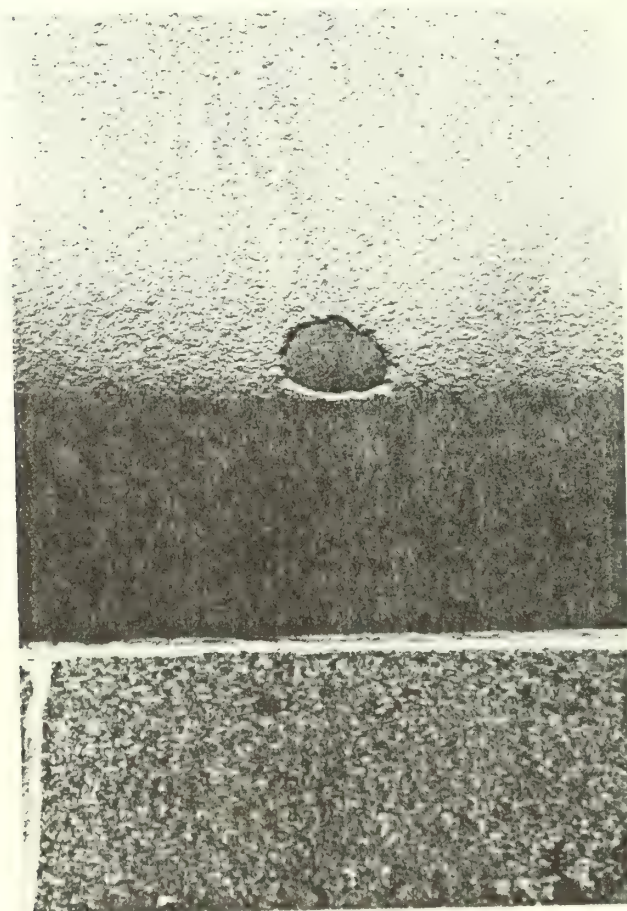
3. Diagnosis of Deterioration Processes

Deterioration is a continuous and inevitable response of materials to a constantly changing environment. This concept must be kept in mind when considering conservation treatments designed to arrest the deterioration processes. Of all the damaging factors, water is undoubtedly the most destructive because it participates directly or indirectly in more actions and reactions than any other factor.

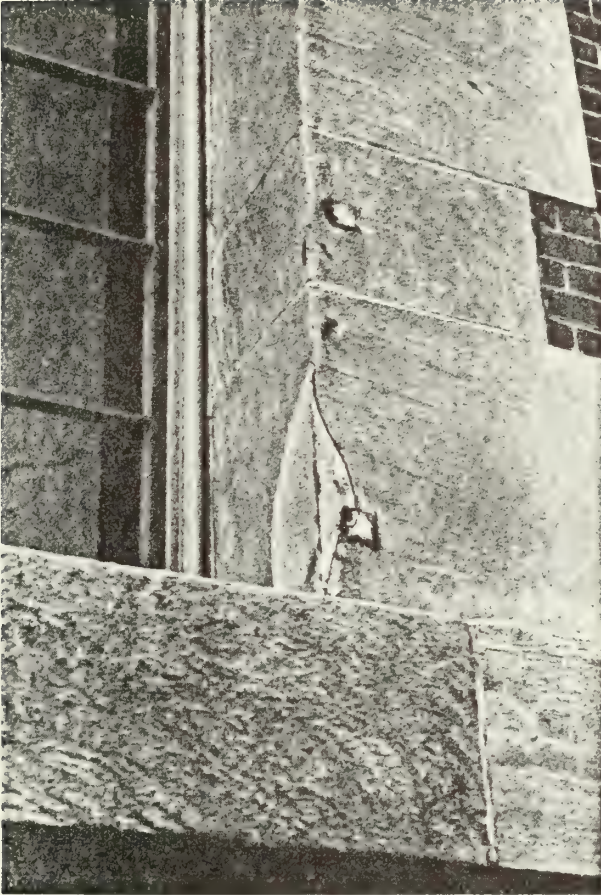
Water and its removal off the buildings has undoubtedly been one of the major problems at Ellis Island. At least three types of roofs have been employed on the main building including a copper roof on the original main clerestory (replaced with tiles in 1913), a terra-cotta tile roof on the original east and west wings and the railroad ticket office, and a series of gravel, built-up, and concrete fill roofs used on later additions and for replacements. In conjunction with these roofing systems, the original building and its subsequent third story



35. Spalling on decorative bracket.



36. Patching executed during the original construction.



37. Previous repair.



38. Previous restoration work.

enlargement employed a system of water collection and removal involving copper cornice gutters and flashing and internal leaders. Only the central clerestory pavilion utilized external leaders for the removal of rainwater from its gable roof which, in turn, fed water to internal leaders located in the masonry walls below. Based on the present downspout locations, this interior system does not appear to have been the direct cause of the severe water penetration and masonry deterioration observed in the first and second stories of the east and west wings (with the possible exception of the southeast facade). Instead the patterns and distribution of deterioration and the numerous references to the repair and replacement of the east and west wing second story cornice and flashing suggest that this intermediate cornice has been the source of the problem since at least 1914. This is further confirmed by the lack of moisture-related deterioration in the third story masonry above.

There can be no doubt that the present conditions of the exterior masonry are largely the result of deferred maintenance over the last thirty years. Whereas the main building indeed suffered from inadequate planning and faulty materials and workmanship early on, attempts to remedy these problems began almost immediately and continued well into the years before World War II. Vandalism of the copper cornice work, flashing and ornamental roofing and inadequate or lack of repairs to windows, doors, roofs and masonry over the last thirty years (until the recent Ehrenkrantz work) has left the building in a disastrous state.

4. Roofs

Recent probes and a general condition survey of all roof surfaces of the main building have revealed that extensive replacement of both roofing and flashing is required. In response to the problems with water removal, discussed above, a new system is currently being designed. It calls for the relocation of rain leaders to internal walls.

All copper roof elements, with the exception of those on the clerestory roof, have been removed. They are in a deteriorated condition and are currently being stored on the first floor east wing. Plans for copper roof restoration work, including tower dome reconstructions, have recently been developed under the direction of Peter F. Dessauer of DSC/NPS (see Appendix D). Some aspects of his work have recently changed as a result of the subsequent roof rehabilitation design work.

5. Windows and Doors

The new wood windows appear to be well constructed and show minimal signs of deterioration. Hardware is missing from most of these windows.

The east clerestory window in the registry room is missing pins in the sill securing the window to the masonry. This window has moved and is in danger of further movement.

Vandalism appears to be the major cause of deterioration to the new windows. Window panes are broken in the basement and at several doors. One basement window is missing. Doors in the stair tower are off their hinges with frames showing evidence of forced entry.

Wood window repairs show signs of deterioration. In some cases, paint is cracking and peeling off on the exterior. Glazing compound is separating from the wood muntins and/or glass and is cracking. In some cases, where the window was repaired, the frame (not replaced in these cases) is rotting out.

2. Interior

Despite the efforts of the architects and the federal government to produce a well-designed Immigration Station at Ellis Island, the main building proved inadequate as early as 1901, with the immediate rise in immigration. Building plans from 1900 to 1943 show the continual division and redivision of space, the construction of new space, and the ever-changing uses of these areas.

a. Description

The interior spaces of the main building are functionally and structurally differentiated into four separate parts: the central section the east and west wings, and the single story railroad ticket office. The four parts of the main building have various construction dates, indicative of the expanding functions of the building: the three-story central pavilion and the lower two floors of the wings were completed in 1900; the railroad ticket office was added to the north in 1905-1906; a third floor was added to the west wing in 1911 and to the east wing in 1914-1915. For a comprehensive view of both the historical development of the building and historic uses of the various spaces see pages 27 through 46.

1. Natural Lighting

Natural lighting plays an important role in Boring and Tilton's interior space layout. The full spectrum of natural lighting conventions was used including areaway lighting in the basement, ordinary windows or window walls in nearly every room, transom lighting, clerestory lighting, and skylighting. Pairs of two-story light courts illuminate the center of each wing. The most dramatic

display of natural lighting is in the registry room which has large arched windows on the second floor and at the clerestory level. This natural lighting system is one reason why the registry room is considered the most architecturally significant space in the building.

b. History of Interior Finishes

A clear evolution of interior building materials can be assembled from the available documents, historic photographs (see Appendix C), and the building fabric itself.

From the beginning, proper sanitary conditions were of major concern and interior materials were selected which were inexpensive and could be easily cleaned and maintained. Most walls in high use areas were simply finished with white cement with gypsum plaster above. Walls and ceilings were left unpainted, the walls articulated only by a plaster dado rail of simple profile set approximately seven feet above the ground. Most doors and sash appear to have been of varnished wood and the decorative ironwork was painted dark green. Although much of the original flooring has been replaced, a continuous asphalt flooring is known to have been used in the registry room and probably in many other areas.

White glazed ceramic tile was introduced as early as 1905 with the construction of the railroad ticket office. It was first used as flooring and later in 1908 (with the dormitory divisions) as a dado finish. Hexagonal floor tiles of white or buff glazed ceramic and white rectangular wall tiles with molded capping quickly became the preferred interior finish. Existing surfaces as well as new construction employed these materials until as late as

1924. This shift towards vitreous finish materials reflects the general interest in America at this time in prompting hygiene and sanitary domestic and public interiors such as bathrooms, kitchens, hospitals, and schools. In line with this notion of hygienic low-maintenance materials, galvanized sheet iron was introduced around 1908 as a non-corrosive fire-resistant covering for the doors and interior enframements of the main building.

Despite the variety of room uses within the main building most interior spaces appear to have been designed and finished according to user rather than specific use. As such, rooms used predominately by immigrants (dormitories, baggage rooms, dining room, etc.) were finished in the hygienic manner previously described. Those rooms primarily serving administrative functions such as the board rooms were initially and continuously finished as offices with more conventional appurtenances such as decorative varnished woodwork, wood floors and full plaster walls. No doubt these spaces were spared the daily disinfection applied to the other areas.

The registry room appears to be the only room to have had any conscious upgrading of its interior. This happened in 1918 following damages incurred during the Black Tom Wharf explosion (July 30, 1916). At this time the registry room ceiling was replaced with Guastavino tile.¹ This system of thin masonry vaulting had been developed by Raphael Guastavino, and his son of the same name, from

¹The following section on Guastavino vaulting and "Artificial Caen Stone" is based on Building Conservation Technology/The Ehrenkrantz Group, "Historic Structures Report; Ellis Island", prepared for the National Park Service, 1978, pp. 82-83.

traditional construction in their native Barcelona. They brought the technique to the United States in the 1880's, where it soon became popular for spanning the large spaces of Beaux Arts buildings such as the Boston Public Library (1888-1895), the Cathedral of St. John the Divine (1892-1911) and Mt. Sinai Hospital (1904) in New York. The vaults consisted of "broad thin terra-cotta tiles that are laid 'flat' with the curve of the vault, usually in two or more layers," the layers being laid at right angles to one another.² Plaster of Paris was usually employed for the first, or soffit course, since its rapid setting put the system almost immediately into compression. The subsequent layers were laid in portland cement, so thickly bedded that the mortar comprised nearly fifty percent of the total volume. The resulting vault acted as a continuous, thin shell which, through the slight curvature of the tiles, was nearly self-supporting. It needed far fewer supports than conventional masonry vaulting, and usually could be erected without expensive and time-consuming falsework.³

According to specifications prepared in 1917, the registry room ceiling was to be "constructed of the reinforced timbrel tile vault from the spring line of the existing trusses forming a continuous barrel vault with penetration at windows."⁴ Three layers of buff-glazed one

²George R. Collins, "The Transfer of Thin Masonry Vaulting from Spain to America," Journal of the Society of Architectural Historians 27 (October 1968): 177.

³Ibid., pp. 177-178.

⁴"Specification for the Installation of a Vaulted Ceiling in the Registry Division, Main Building, Ellis Island, N.Y. Harbor; and also Installation of Artificial Caen Stone or Artificial Limestone on the Side and End Walls of same room," p. 1.

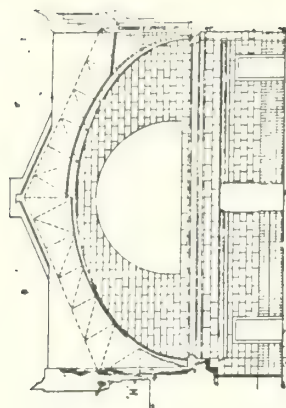
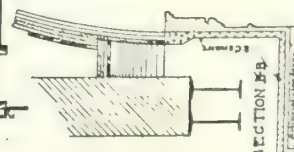
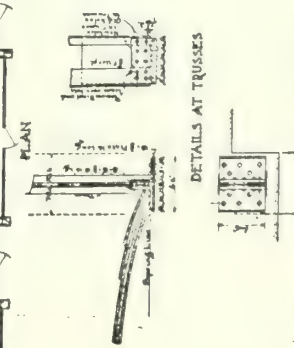
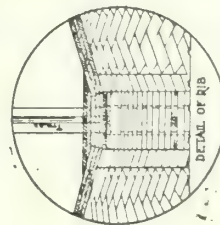
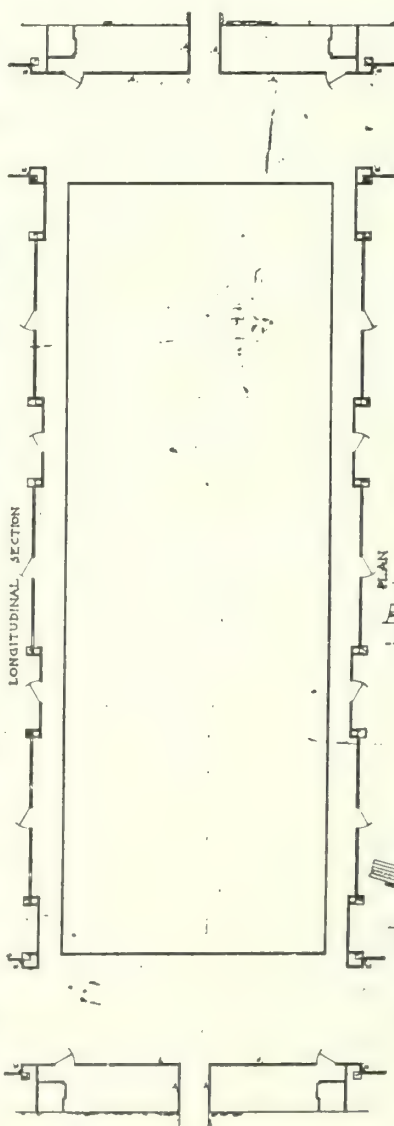
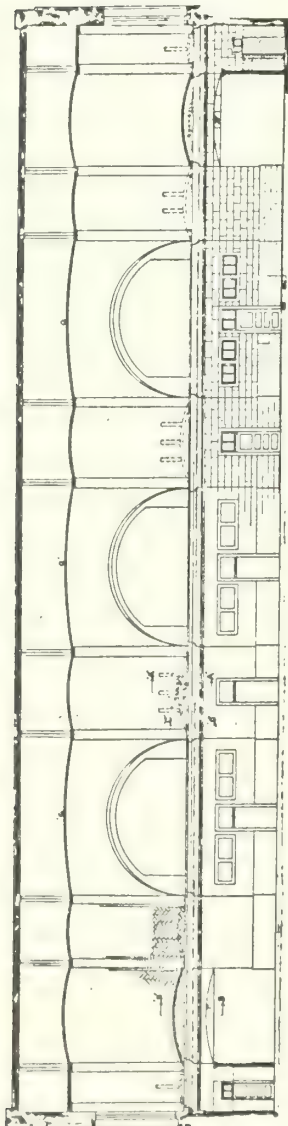
inch thick tile were laid up with plaster of paris and portland cement mortars in a herringbone pattern. The vault was divided by ribs covered with lateral coursing where the ten existing steel trusses were located. Similar ribs ran perpendicular to the haunches of the vaults at the spring line in order to provide additional stiffening (exhibit 1).

At the same time, changes were made in surrounding finishes of the registry room. The original asphalt floor, "badly worn" after use by "great masses of filthy people,"⁵ was replaced with red quarry tile whose herringbone pattern matched the vaulting above. From the top of the tile dado on the balcony to the spring line of the arch, the wall was to be covered with "Artificial Caen Stone" or "Artificial Limestone." The brick and terra-cotta surfaces were coated with a dampproof material and then two plaster coats consisting of sand, hydrated lime, and Keene's cement in varying proportions, with goat and cattle hair added for tensile strength. The finish coat was to consist of 'Monarque Brand'...artificial Caen stone, with an alternate for...artificial limestone",⁶ scored with three-sixteenths-inch joints in one-by-two foot sections. The surface was roughened with emery paper to produce a stone-like texture, and joints were filled with Keene's cement, "evenly trimmed, leaving clean, unbroken arrises."⁷ Although decorative, the red tile floor, Guastavino vaulting, and artificial Caen stone were considered in keeping with the tradition of low-maintenance hygienic finishes.

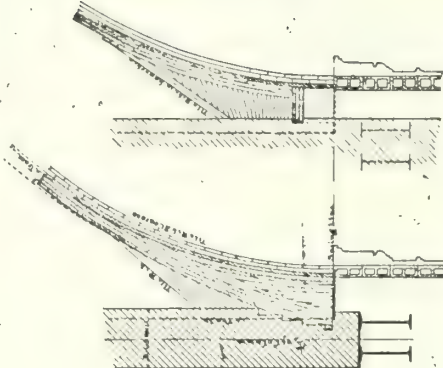
⁵Williams to Commissioner General of Immigration, October 9, 1911, RG 85, NA.

⁶"Specification", p. 3.

⁷Ibid.



HALF SECTION THRO SKEWAYE HALF SECTION THRO PONTON



SECTION A-A

Arch Ceiling
Main Build
Floor 1

Diff 818

ALFRED HENRY
FURNISHINGS
FURNISHINGS
FURNISHINGS

356 41967 / 3 of 4

GENERAL LAYOUT
DETAILS

Designed by H. M. Parker Construction Co.

CONSTRUCTION UNIT
FURNISHINGS
FURNISHINGS
FURNISHINGS

The main building witnessed the last major program of interior remodeling during the W.P.A. period in the 1930's. Associated with this period is the terrazzo flooring on the first floor, glazed terra-cotta wall block, and square blue and white ceramic floor tile. Although minor alterations continued to be made until 1954 when the island was abandoned, most of these materials and construction techniques were of poor quality or were introduced without any regard for the existing fabric. Such work included wall board partitions, drop ceilings, and painted tile work.

1. Selected Interiors⁸

An in-depth examination and analysis of selected interiors will provide an understanding of general material usage over time as well as specific room evolution. Those areas selected for specific study were chosen based on the following criteria: architectural and historical significance, general condition, use (representative, i.e. northwest stair tower or unique, i.e. special inquiry room), and available documentary and photographic sources.

The examination and documentation of the interior of the main building was accomplished through the detailed coordination of relevant archival documents and archeological investigation. Both primary and secondary sources were employed including architectural drawings, building specifications, personal accounts and

⁸This section appears in Frank Gerard Matero, "Historic Interior Study: Main Building, Ellis Island National Monument," 1984, pp. 1-26. On file at BBB/ANF's office in New York.

correspondances, and historic photographs (the latter being the most important). Previous reports concerning the history of the island and its buildings were also consulted. These proved invaluable where primary documents were not available or accessible.

The actual archeological investigation of the building was conducted by Frank Gerard Matero, architectural conservator, over a nine month period beginning in September 1983. Wherever necessary, field examination was supplemented by the collection of samples for further laboratory examination and analysis (i.e., paint and mortar analysis, see Appendix B). In cases where dating was difficult due to the absence of written or photographic support material, historical research into the materials and their manufacturers or suppliers (if identified) was useful in establishing tentative dates for undocumented building alterations. All building material samples were processed at the Preservation Laboratories at Columbia University, New York.

a. Northwest Stair Tower (S01)

Evidence indicates that the four original towers were designed and finished in an identical manner and served to house the stairways, elevators, waterpipes, and ventilating shafts. The most significant alteration to these areas occurred some time around 1937 when their arched access openings were infilled and enclosed with fire doors.

1900-1907

Originally the stair tower walls were finished with a dark grey dado and rail and an unpainted

plaster field (and possible ceiling).⁹ All the staircase ironwork including the decorative scroll brackets, cast-iron stringers, risers, railings, and newel posts were painted dark green and the oak handrails varnished. The treads and intermediate landings are of grey slate. The main floor landings probably employed the same flooring materials used on each principal floor and were most likely asphalt until 1908 when they were replaced by white hexagonal tile. The elevator, elevator enclosures, and radiators were bronzed and varnished like the registry room radiators and pens.¹⁰ Some time before 1908, and probably around 1903, the stair towers were painted as the registry room with a dark green dado and rail and a grey-green field. The ironwork also appears to have been repainted darker green at this time for easy maintenance.

1908-1923

The stair towers received the same treatment as the registry room during this period (until the redecoration of the registry room in 1918). This conclusion is based on the documented changes in the registry room for the period 1908-1917 and the close comparison of paint layer stratigraphies for both areas. It is likely that the walls were painted the same dark green and cream and the ironwork finished with metallic aluminum paints as in the registry room. It is also very probable that the hexagonal glazed

⁹This is confirmed by the paint layer stratigraphy and the obvious maintenance requirement of a darkly painted dado in these heavily trafficked areas.

¹⁰U.S. Department of the Interior, National Park Service, Denver Service Center, "Historic Structure Report; Ellis Island; Historical Data", by Harlan D. Unrau, 1981, pp. 78, 96.

tile flooring was installed on the landing at this time as well. With the use of a lighter palette of creams, greys, and buffs for the 1918 remodeling of the registry room, it is not surprising to find the same changes reflected in the repainting of the stair towers resulting in monochromatic cream walls, grey sash and trim, and metallic aluminum painted ironwork. Even the red quarry tile base was carried over from the registry room and installed on the principal landings.

1924-Present

The period after 1924, and particularly after 1937, saw the enclosure of the stair towers and various bi-color wall treatments of tans and browns. The nearly full paint sequence found beneath the junction of the infill wall and the original plaster wall, as well as the lack of paints on the newer fire wall, suggest that very little painting occurred after ca. 1940.¹¹

¹¹No specific reference has yet been found to date these walls. The present glazed fire doors are patent marked "1914 No. 27".

SITE: ELLIS ISLAND NATIONAL MONUMENT
 ROOM: NORTHWEST STAIR TOWER (S01)
 LOCATION: MAIN BUILDING

| | 1900 | 1902/03 | 1908-17 | 1918-24 | 1924-pr. |
|------------------------|-------------------|----------------|----------------|-----------------|---------------|
| <u>Floor</u> | asphalt? | asphalt? | tile | tile | tile |
| <u>Landing</u> | slate | slate | slate | slate | slate |
| <u>Base</u> | slate | slate | slate | red tile | black-painted |
| <u>Walls:</u> | | | | | |
| Dado | dk grey | dk green | olive green | cream | cream |
| Rail | dk grey | dk green | olive green | cream | cream |
| Field | unpainted plaster | lt. grey-green | cream | cream | cream |
| Cornice | - | - | - | - | - |
| <u>Ceiling</u> | unpainted plaster | lt grey-green | cream | cream | cream |
| <u>Trim</u> | varnished wood | varnished wood | varnished wood | grey | replaced |
| <u>Other:</u> | | | | | |
| <u>Stair iron-work</u> | dk green | dk green | black | aluminum paints | grey |
| Hand-rail | varnished wood | varnished wood | varnished wood | varnished wood | red |
| Elev. | bronzed | bronzed | bronzed | bronzed | cream |

b. Baggage Room (128)

1900-1911

Despite the various changes in use and plan, the baggage room has retained a large percentage of its original and subsequent fabric. The room was originally designed in 1900 as the entrance-vestibule and for the storage and assortment of baggage. The area was left open with the main staircase to the original examination room (now registry room) located in the center. Along the south end ran an east-west partition wall which formed a central entrance flanked by two vestibules. Although this partition is no longer extant, the arrangement can still be observed in the original ornamental plaster ceiling of the center entrance bay and in the floor pavement. Moreover, the southernmost row of columns still preserves the original seven and one-half foot painted dado of the entrance and vestibule which differs significantly from the six foot dado found on the remaining columns and originally relating to the area beyond. Along the northernmost row of columns extended a bronzed wire partition similar to those in the registry room.

The baggage room was originally finished in the same manner as the other principal rooms of the main building: full plaster walls with a molded plaster rail, square plaster columns and a simple plaster ceiling. Early photographs (photo 1) indicate that by 1902, the lower walls were painted the same dark green as in the registry room and the upper plaster field left unpainted. The same scheme was applied to the columns; however, the dark green dado was trimmed by a one-half inch red band set seven and one-half feet or six feet from the ground (depending on column location). Interior trim and sash such as the west wall

window and enframement were stained and shellac-varnished until their repainting in 1937. The floor was most likely concrete, a portion of which still exists in the center front.

1911-1924

Around 1911, the central staircase was removed to the east end of the room and the space divided into a myriad of smaller rooms accommodating various agents, societies, detained immigrants, and customs inspection. These changes in plan can still be observed by the hexagonal floor tiles found in the east and west bays. Although many of these partitions were later removed, surviving finishes on the exterior walls suggest that the earlier green dado and now cream-painted field was repeated for at least the next three repaintings. Traces of a three-course white tile base found preserved on the south and east end columns probably relate to previous rooms installed some time around 1911-1918.¹² In 1918 the baggage room was used by the military for the accommodation of servicemen. Photographs of the room from this period nevertheless indicate that the room and its finishes remained as before.

1924 - Present

In 1924 the east staircase was completely removed. A 1926 photograph (photo 2) and paint evidence suggest that a low-contrast light-colored dado and field were adopted on the columns and a contrasting dark-light scheme reserved for the walls. After 1937, an east-west

¹²These tiles, identified on the back as "MOSAIC", are associated with other 1918 alteration work on the lower columns and southwest corner of the registry room.



1. Baggage room, view northwest. From "Quarantine Sketches", a pamphlet published as advertising by the Maltine Company for distribution to physicians, 1902. Library of Congress.



2. Baggage room, view northwest. "Refreshments, Awaiting examination, noon hour, June 1, 1926.". National Archives.

partition wall was installed along the northernmost row of columns,—replacing the original wire partition. In addition, the openings to the railroad ticket office were narrowed and lowered and possibly the newer hexagonal tile flooring installed along the north end.

SITE: ELLIS ISLAND NATIONAL MONUMENT
 ROOM: BAGGAGE ROOM (128)
 LOCATION: MAIN BUILDING

| | 1900 | 1902/03 | 1908-10 | 1911-24 | 1924-pr. |
|----------------|-------------------------------------|----------------------------|----------------|----------------|----------|
| <u>Floor</u> | concrete | concrete | concrete | tile | tile |
| <u>Base</u> | ? | ? | ? | wht tile | - |
| <u>Walls:</u> | | | | | |
| Dado | dk green | dk green | olive green | olive green | salmon? |
| Rail | dk green | dk green | olive green | olive green | cream |
| Field | unpainted plaster | cream? | cream | cream | cream |
| <u>Ceiling</u> | unpainted plaster | cream? | cream | cream | cream |
| <u>Trim</u> | varnished wood | varnished wood | varnished wood | varnished wood | white |
| <u>Doors</u> | ? | ? | ? | ? | red |
| <u>Windows</u> | varnished wood | varnished wood | varnished wood | varnished wood | white |
| <u>Other:</u> | | | | | |
| Columns | 6'7 1/2" dado with 2/3" red banding | as before with cream field | as before | as before | cream |

c. Railroad Ticket Office (121)

1905-1924

Early photographs from 1909-1912 indicate that the room was a vast open space outfitted on all sides with varnished vertical board and wire mesh counters set up for the sale of tickets and for money exchange. Remains of this arrangement still survive as evidenced by the oak shelves in the southwest and southeast corners. The original finishing of the room was in accordance with earlier spaces in the building. The plaster walls were finished with a dark green dado and molded plaster rail (now removed) and a light green field above. The circular columns were also painted in the same manner with a six foot high dado. The floor was covered with the present white glazed hexagonal tiles. The unique molded white glazed tile base is also of original installation. The 1909-1913 photographs (photos 3 & 4) clearly indicate that the now exposed ceiling trusswork was originally concealed by a painted plaster ceiling pierced by wire-glass skylights. Additional lighting was provided by double-arm drop ceiling fixtures.

1924-Present

Early photographs and paint investigation suggest that the interior retained its dark green/light green wall and column treatment up to 1921. In 1924 a proposal was made to raise the roof of the old ticket office.¹³ This was executed, as indicated by a 1926 photograph showing the exposed structural framework painted

¹³Unrau, p. 165.



3. Railroad ticket office, view west, 1909-1912, Edwin Levick, photographer. William Williams Collection No. 25. New York Public Library, Local History and Genealogy Division.



4. Railroad ticket office, Money Exchange Counters, 1909-1912, Edwin Levick, photographer. William Williams Collection, No. 4. New York Public Library, Local History and Genealogy Division.

and open to view. Comparative paint analysis of the steel framework, plaster infill, walls and columns indicates that they were painted a monochromatic cream at this time and for the next several repaintings. In addition to the ceiling removal, it is very likely that the tiled bathrooms in the northeast corner were installed some time around this date based on the tiles used and the discovery of a 1924 patent date on the pedestal sinks.¹⁴

In 1931, the railroad ticket office roof was repaired and structural glass skylights were installed.¹⁵ Some time after 1937, the southern entrances to the ticket office were enclosed with plaster and wire mesh infills, a red quarry tile base added, and board partitions put up in the southeast bay and southwest corner. Also at this time or later, the northeast bathroom extension of glazed terracotta block was constructed and the coat racks installed on the south wall.

¹⁴These specific tiles have been identified with other ca. 1924 alteration work (i.e., balcony, dormitory remodeling).

¹⁵All but one of these skylights were removed during the recent rehabilitation work.

SITE: ELLIS ISLAND NATIONAL MONUMENT
 ROOM: RAILROAD TICKET OFFICE (121)
 LOCATION: MAIN BUILDING

| | 1900 | 1902/03 | 1905-23 | 1924-37 | 1937-pr. |
|----------------|------|---------|--------------------------------------|--|-------------------|
| <u>Floor</u> | - | - | tile | tile | tile |
| <u>Base</u> | - | - | molded tile | molded tile | red tile added |
| <u>Walls:</u> | | | | | |
| <u>Dado</u> | - | - | dk green | cream | brown |
| <u>Rail</u> | - | - | dk green | cream | removed |
| <u>Field</u> | - | - | lt green | cream | brown |
| <u>Cornice</u> | - | - | - | - | - |
| <u>Ceiling</u> | - | - | ? | removed-exposed frame painted cream | |
| <u>Trim</u> | - | - | varnished wood | grey | grey |
| <u>Doors</u> | - | - | - | - | - |
| <u>Windows</u> | - | - | varnished | grey | grey |
| <u>Other:</u> | | | | | |
| <u>Columns</u> | - | - | 6' dk gr dado & lt green field | cream | tan |

d. Registry Room (231)

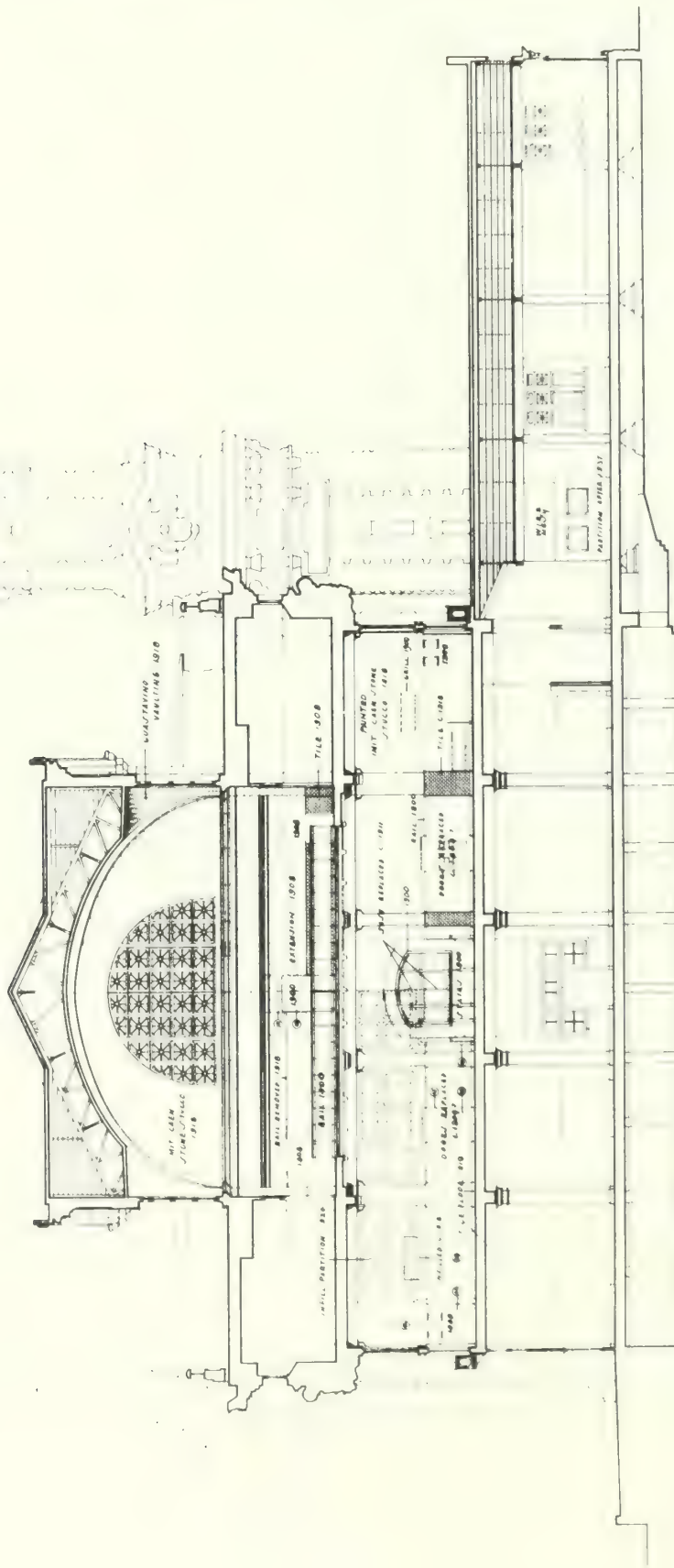
The registry room was central to the design and operation of the main building. Serving as the main examination room (1900) and later the registry room (1907), the space underwent significant remodeling in 1918. In 1924 the room was subdivided by partition walls on the south, west, and east when it was converted to use as temporary detention quarters and a special inquiry room (dates of finishes are depicted in exhibits 2 and 3).

1900-1908

Initially the registry room, like most of the large interiors in the main building, was largely unpainted (photo 5). In 1903 severe water damage prompted extensive repainting.¹⁶ This resulted in the finishing of the unpainted cement and plaster walls of both the main and balcony levels in a simple bi-color scheme employing a dark green dado and molded plaster rail with a light cream field and cornice above (photo 6). Whether the original plaster ceiling vaulting was ever painted prior to its replacement in 1918 has not been established. The original flooring and base of the room appears to have been of a dark asphaltic composition until its replacement in 1918 by the present Ludowici tile.¹⁷ The original center stair leading up from

¹⁶Dirt and graffiti found directly on the unpainted plaster walls verify early descriptions and views of the room as being originally unpainted. By 1903, expenditures were reported for extensive interior painting. See Unrau, p. 129.

¹⁷New York Tribune, December 17, 1900. See Unrau, p. 104. While no evidence of this flooring survives in the room, a similar material has been found in other rooms such as 206.



TS

BEVER BLUNDER BELLE /
ANDERSON MOTTER FINEGOL
30 FIFTH AVENUE
NEW YORK, NY 10114
212) 741-3960

STRUCTURAL ENGINEERS

STRENGTH OF NEW BRICKS

MECHANICAL &

SHREEDHAR ELECTRICAL ENGINEERS

STEWART K. KELLY

TECHNICAL ENGINEER

LOCKWOOD KIDSLER BARTLETT

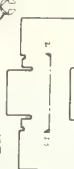
LATERALS CONSULTANT

ROBERTSON FRANK MATTHEO

MAIN BUILDING ELLIS ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| | | |
|----------|-------------|------|
| DATE | REVISED | DATE |
| DESIGNED | TECH REVIEW | |
| DRAWN | KEY PLAN | |



TITLE OF SHEET

SECTION D2

9409 SHEET NO.~

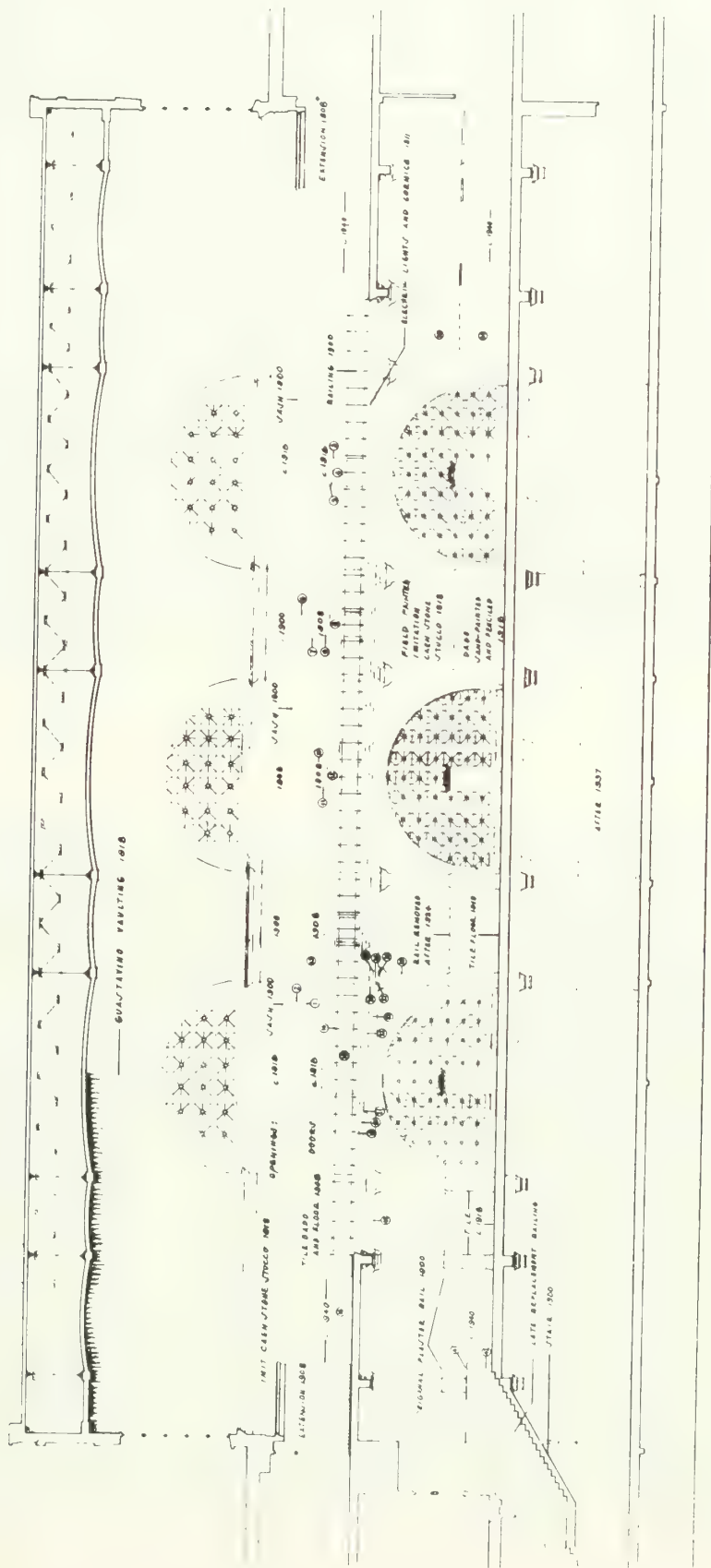
ON DEMAND

EX-27

| | |
|--------|-------|
| PKG NO | SHEET |
|--------|-------|

—
Of

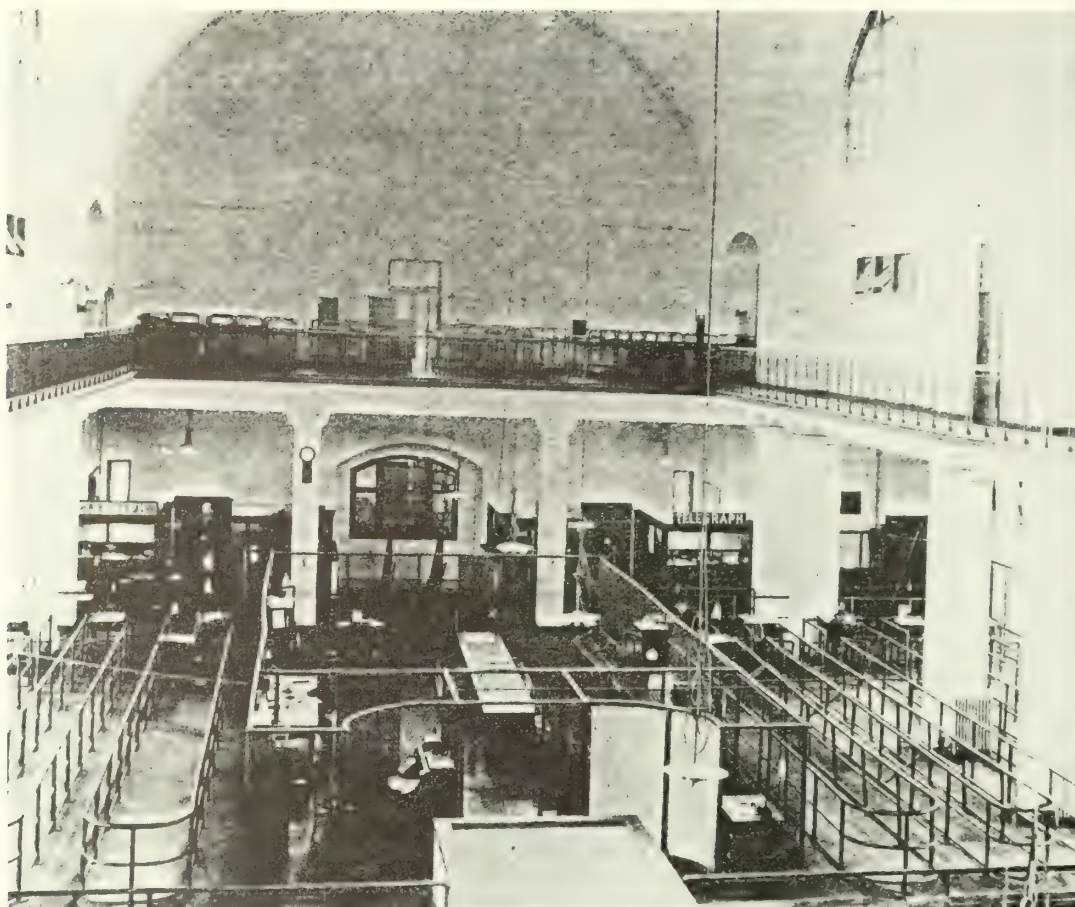
Exhibit C



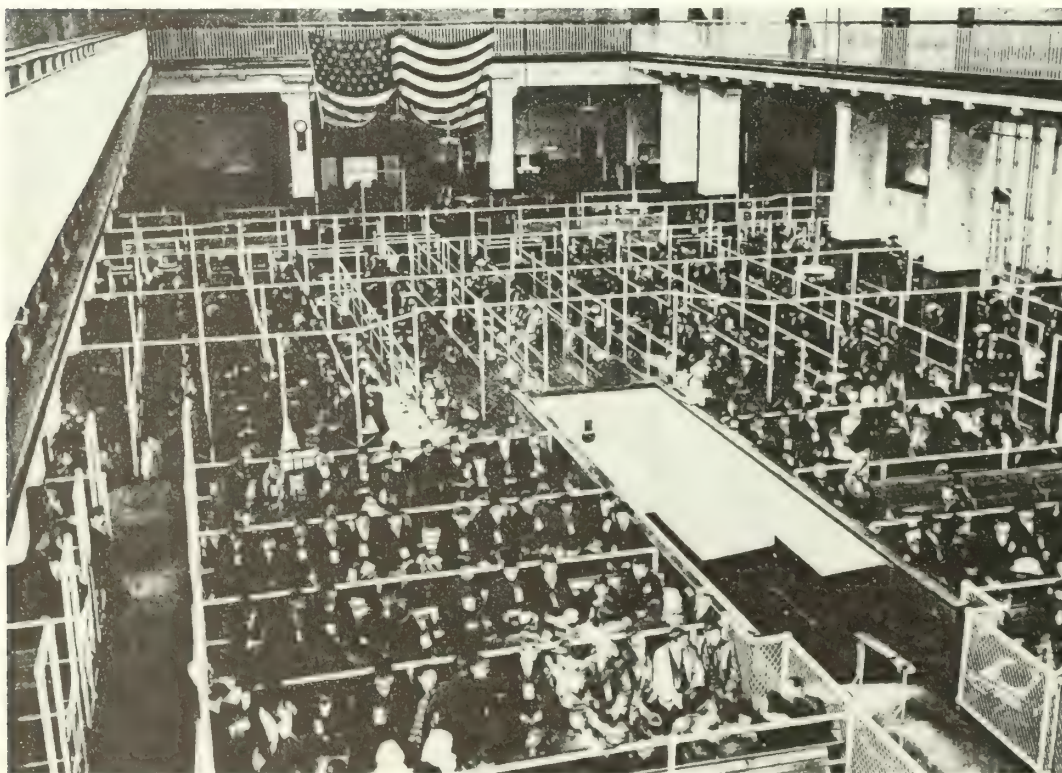
SECTION D2

1000

| | |
|-----|-------------------|
| 356 | 26,002 / 34 of 70 |
| DSC | JUL 88 |



5. Registry room, view west, 1900-1902. Powderly Papers and Photographs, Department of Archives and Manuscripts, The Catholic University of America.



6. Registry room, view east, pre-1908. Sherman Collection.

the baggage room was replaced in 1910-1911 by another stairway (no longer extant) in the east end of the hall. The surviving west hall stairway (S11) is original and similar in construction to the four tower stairs of the same date. Although this west staircase has lost its original center rail-partitions, the remainder of the fabric is extant. The stairs are assembled from single treads of dark grey slate with cast-iron risers and stringers (manufactured by Hecla Ironworks) which were originally painted dark green. The attached oak handrails are original and were varnished (as in the stair tower examples) while the wood cap rail of the stairwell wall appears to have been originally grained. The green ironwork confirms the use of dark green as cited in an early description of the room in the New York Tribune, December 17, 1900, "The white walls and dark green trimmings are refreshing in their suggestion of cleanliness".¹⁸

Early photographs indicate the balcony was treated in the same manner as the main level. Like the ironwork below, the balcony railing was painted a dark green, the oak handrail varnished, and the floor of asphalt. Evidence suggests that the original registry room doors, transoms, and enframements were of finished wood. Only several of the original glazed and paneled doors and their respective enframements survive on the east-west balcony corridors. These examples, together with the few original transom sash, indicate that the doors, transoms, and enframements were originally stained and varnished with shellac (this treatment still survives on the interior face

¹⁸It is interesting to note that these cast-iron elements were designed with pronounced chisel marks simulating dressed stone. This was apparently ignored in the selection of green as their finish color on site.

of the southeast ventilation shaft door). Most of these doors and their enframements were replaced in 1908 with galvanized sheet metal doors and enframements.

1908-1917 (photo 7)

In 1908 the balcony was significantly remodeled with the partitioning of the north and south dormitories and the extensions on the east and west walls. This remodeling led to the insertion of a doorway within the existing windows in the center bays of the north and south walls for increased access. In 1908 the balcony walls were finished with the present white glazed tile dado, the doors replaced with the existing galvanized doors, the door enframements replaced with surrounds of white marble (lower) and galvanized sheet metal (upper), the plaster rail removed, and the floor refinished with glazed hexagonal tiles.

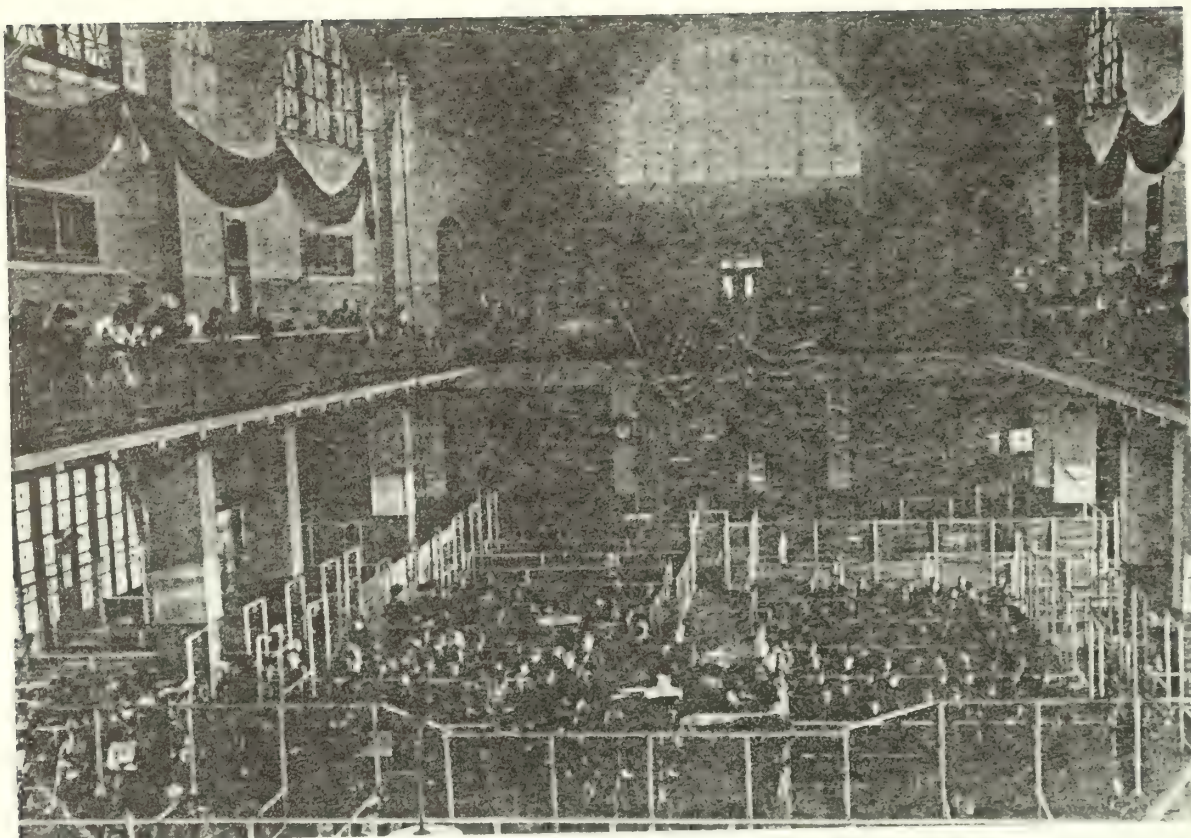
A comparative examination of the balcony-dormitory doors and doorways reveals subtleties in design and molding profiles identifying their 1900, 1908 and ca. 1918 dates of installation. Contemporary photographs reveal that the balcony railing was painted a light color. This was probably metallic aluminum powder paint identical to that which was used on the staircase in the stair towers. This color shift also occurred on the main floor where the stair ironwork was painted with aluminum paints. In 1911-1912 the earlier wire pens were replaced by wood benches and the present galvanized sheet metal balcony cornice and lights installed. Further dormitory subdivisions also demanded the installation of two additional doorways within the far east and west bays of the north and south balcony walls before 1918.

1918-1924 (photo 8)

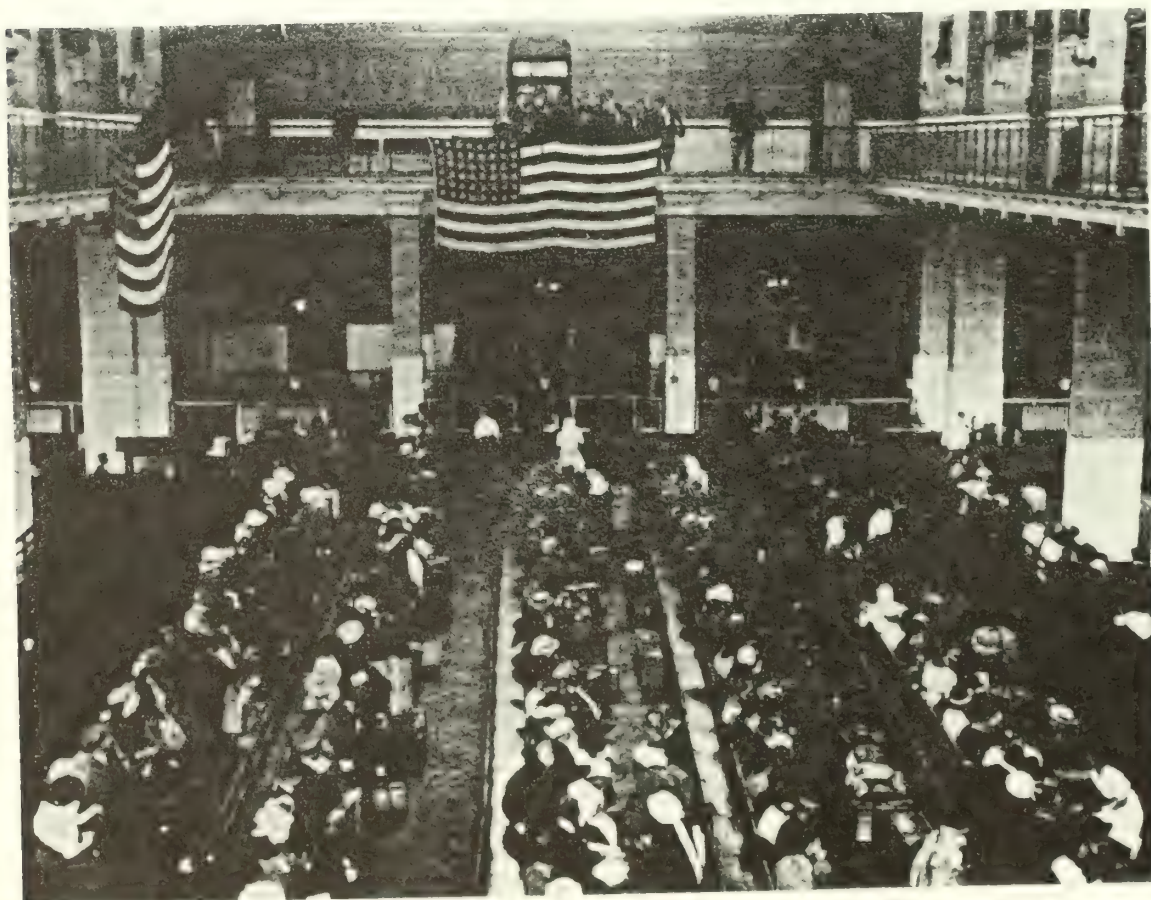
Prior to this period the registry room experienced significant interior embellishment marked by the installation of the Guastavino tile vaulting, the Ludowici red tile floor and base, and the use of "Artificial Caen Stone" stucco. The latter was applied to the upper walls of the registry room and most likely to the upper areas of the main level walls and columns. Although surviving specifications for this finish identify only third story work, photographic evidence and a significant absence of paints and new plasterwork on the upper walls and columns of the main level argue for the likelihood of the application and later removal of the same imitative stone finish. This stucco finish was also used for the vault entablature where it was molded on expanded metal lath and supported on a projecting iron armature. Both the entablature and the wall stucco were smooth floated and incise-scored, dry-rub finished, and the scoring filled with a white pointing mortar. To simulate this imitation ashlar stucco, the dado and rail of the lower walls were sand-painted with a cream ground and penciled, a distinction which can be noted in the 1918 photograph. Selective tilework was also installed at this time around the lower columns and in the southwest corner of the room. During this period, it is likely that the doors, windows, enframements, and sheet metal cornice were painted cream and the stairs and balcony ironwork finished with aluminum powder paints.

1924-present

By 1924 the registry room was significantly altered in plan with the installation of large tiled partition walls on the west, south, and east. After 1924



7. Registry room, view west, 1909-1912, William Williams Collection No.1.
New York Public Library, Local History and Genealogy Division.



8. Registry room, view west, ca. 1918. Immigration and Naturalization Service.

most of the earlier decorative finishes were overpainted or removed including the dado rail. After 1937 the present partitions on the west and east balcony corridors were built, and probably also the existing wooden staircase and stair tower fire walls and doors.

SITE: ELLIS ISLAND NATIONAL MONUMENT
 ROOM: REGISTRY ROOM (231)
 LOCATION: MAIN BUILDING

| | 1900 | 1902/03 | 1908-17 | 1918-24 | 1924-pr. |
|----------------|-----------|-----------|-----------|------------|----------|
| <u>Floor</u> | asphalt | asphalt | asphalt | red tile | red tile |
| (balcony) | asphalt | asphalt | tile tile | tile | |
| <u>Base</u> | asphalt | asphalt | asphalt | red tile | red tile |
| (balcony) | asphalt | asphalt | tile tile | tile | |
| <u>Walls:</u> | | | | | |
| <u>Dado</u> | unpainted | dk green | olive | | |
| (balcony) | unpainted | dk green | green | sand pt | cream |
| | | | wht tile | wht tile | wht tile |
| <u>Rail</u> | unpainted | dk green | olive | | |
| (balcony) | unpainted | dk green | green | sand pt | cream |
| | | | wht tile | wht tile | wht tile |
| <u>Field</u> | unpainted | cream | cream | imit Caen | stone |
| (balcony) | unpainted | cream | cream | " | removed |
| <u>Cornice</u> | - | - | - | - | - |
| (balcony) | dark? | dark? | paintd | cream | cream |
| | | | galvaniz. | | |
| | | | cream | | |
| <u>Ceiling</u> | unpainted | cream | cream | Guastavino | vaulting |
| | vault? | | | | |
| <u>Trim</u> | varnished | varnished | replaced | cream | cream |
| | wood | wood | galv.iron | | |
| | | | & marble | | |
| <u>Doors</u> | varnished | varnished | galv.iron | cream | |
| | wood | wood | | | cream |
| <u>Windows</u> | varnished | varnished | grey | cream | replaced |
| | wood | wood | | | |
| <u>Other:</u> | | | | | |
| <u>Stairs</u> | | | | | |
| ironwork | dk green | dk green | alum.pt. | alum.pt. | white |
| Balcony | dk green | dk green | alum.pt. | alum.pt. | white |
| Handrail | varnish | varnish | varnish | varnish | red |
| Radiators | | | | | |
| & pens | bronzed | bronzed | bronzed | - | - |

e. Board Room (210/211)

1910-1924

The southwest corner board room (now divided into two rooms) was one of several similar administrative rooms refurbished during the 1911 addition of the third story to the northwest wing. An early photograph which appears to be room 210/211, dated to 1910-1913 (photo 9), reveals finishes and architectural features associated with these rooms in general: a dark narrow board floor, shellacked oak veneer bases, doors, sash, and enframements, and full cream plaster walls relieved at the top by a thin picture molding. A platform and turned balustrade railing for the board of inquiry were located against one wall (now removed). Also originally present were the ubiquitous wall bracket fans found elsewhere in the building. In addition to these features, room 210/11 also possesses a decorative oak veneer door screen with patterned glazing. Similar screens exist in other second story rooms and are associated with the 1910-1911 period. Later in this period, a thick green linoleum was installed in many of these rooms including 210/11.

1924-present

Several alterations appear to have occurred in this room rather late including the removal of the railing and the installation of gypsum board partitions and a drop-ceiling. Portions of an identical balustrade and railing (recycled) presently exist in an east wing corridor (H209).

SITE: ELLIS ISLAND NATIONAL MONUMENT
ROOM: BOARD ROOM (210/11)
LOCATION: MAIN BUILDING

| | 1900 | 1902-03 | 1908-10 | 1910-24 | 1924-pr. |
|----------------|------|---------|---------|-----------------------|-------------------------|
| <u>Floor</u> | - | - | - | varnished | linoleum |
| <u>Base</u> | - | - | - | varnished | black |
| <u>Walls:</u> | | | | | |
| <u>Dado</u> | - | - | - | full cream wall | full lt blue wall |
| <u>Rail</u> | - | - | - | - | - |
| <u>Field</u> | - | - | - | see above | see above |
| <u>Cornice</u> | - | - | - | varnished | picture molding |
| <u>Ceiling</u> | - | - | - | cream | dropped |
| <u>Trim</u> | - | - | - | varnished | varnished |
| <u>Doors</u> | - | - | - | varnished | varnished |
| <u>Windows</u> | - | - | - | varnished | varnished |
| <u>Other:</u> | | | | | |
| <u>Railing</u> | - | - | - | varnished | removed |

f. Dormitories (North Bank)

1900-1907

Originally the areas to the north and south of the registry room balcony were designed for segregated dormitory use. Little is known about the appearance of these rooms other than the fact that they were large plain open rooms with wire cage beds. Access to them was off the balcony level through two doorways. Although the present room finishes date almost entirely to the 1908 alterations, evidence of the original ceiling and walls suggests fully plastered surfaces. In the case of the ceiling, the original plaster appears to have been applied to a herringbone expanded metal lath which in turn was secured to thin wooden strips. This ceiling was later covered by two other ceilings (see below). All original woodwork, including the sash, were varnished.

1908-1923

In 1908 the dormitories were remodeled by partitioning the large single rooms into smaller ones, installing sanitary plumbing (water-closets and sinks) and ventilation, and the complete refinishing of the interiors with a white tile dado, cream plaster walls, and a hexagonal tiled floor (as on the balcony). The creation of small rooms required additional balcony access and a third doorway was installed in the center bay of the north and south elevations. It is likely that during remodeling, a new plaster ceiling was installed (still partially visible behind the present ceiling). Plaster infill ghosts high up on each partition wall suggest that each interior room was fitted with ventilation transoms which were later blocked up, presumably some time after 1924 (according to paint

evidence). As observed on the balcony trim, sash, and door, the interior wooden surrounds, sash and doors of the dormitory rooms were probably painted grey. Unlike the sheet metal-sheathed enframements on the balcony, the interior surrounds were simply plain painted wood with half marble jambs below. Like the outer face of the access doors, the interior galvanized covering of the lower doors was initially left unpainted and later painted when the woodwork was repainted. Further partitioning of the far rooms on the east and west ends around 1918 resulted in the addition of two more doorways on each side.

1924-present

Very little change appears to have occurred in these rooms either singly or as a group. The third, and last ceiling, was installed and the wire cage beds replaced with proper beds in 1924/25. In 1934, new plumbing was installed.

SITE: ELLIS ISLAND NATIONAL MONUMENT
 ROOM: NORTH DORMITORY (335, REPRESENTATIVE)
 LOCATION: MAIN BUILDING

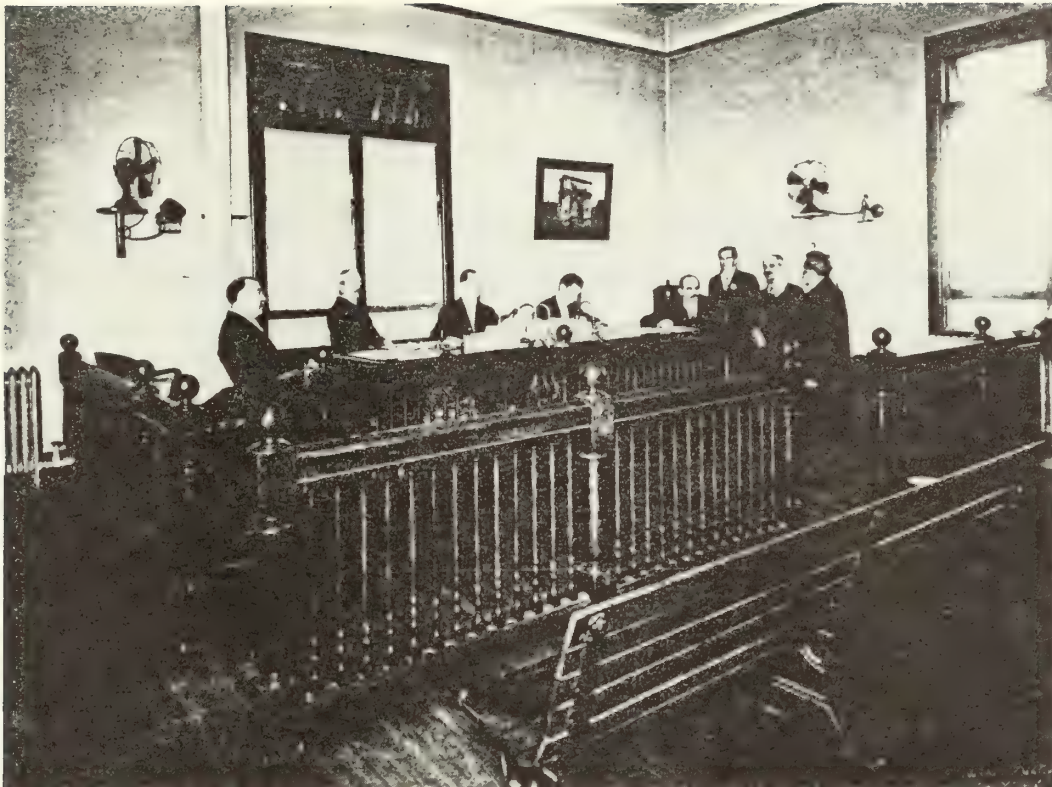
| | 1900 | 1902-03 | 1908-17 | 1918-24 | 1924-pr. |
|----------------------|----------------------|------------------------------------|--------------------------------|-----------------------|-------------------|
| <u>Floor</u> | ? | ? | tile | tile | tile |
| <u>Base</u> | ? | ? | tile | tile | tile |
| <u>Walls:</u> | | | | | |
| <u>Dado</u> | unpainted plaster | unpainted plaster? | partitions added with tiles | | " |
| <u>Rail</u> | ? | ? | tile | tile | tile |
| <u>Field</u> | unpainted plaster | unpainted plaster | cream (transoms | cream added) | cream (closed) |
| <u>Cornice</u> | - | - | - | - | - |
| <u>Ceiling</u> | #1 unpted plaster | " #2 cream | " #3 cream | | |
| <u>Trim</u> | ? | ? grey wood & marble | grey wood & marble | grey wood & marble | |
| <u>Doors</u> | ? | ? grey wood & unpted galvan. | all grey | all grey | |
| <u>Windows</u> | varnished | varnished | grey | grey | grey |
| <u>Other:</u> | | | | | |
| <u>Cage beds</u> | bronzed | bronzed | bronzed | bronzed | removed |

g. Special Inquiry Room (303)

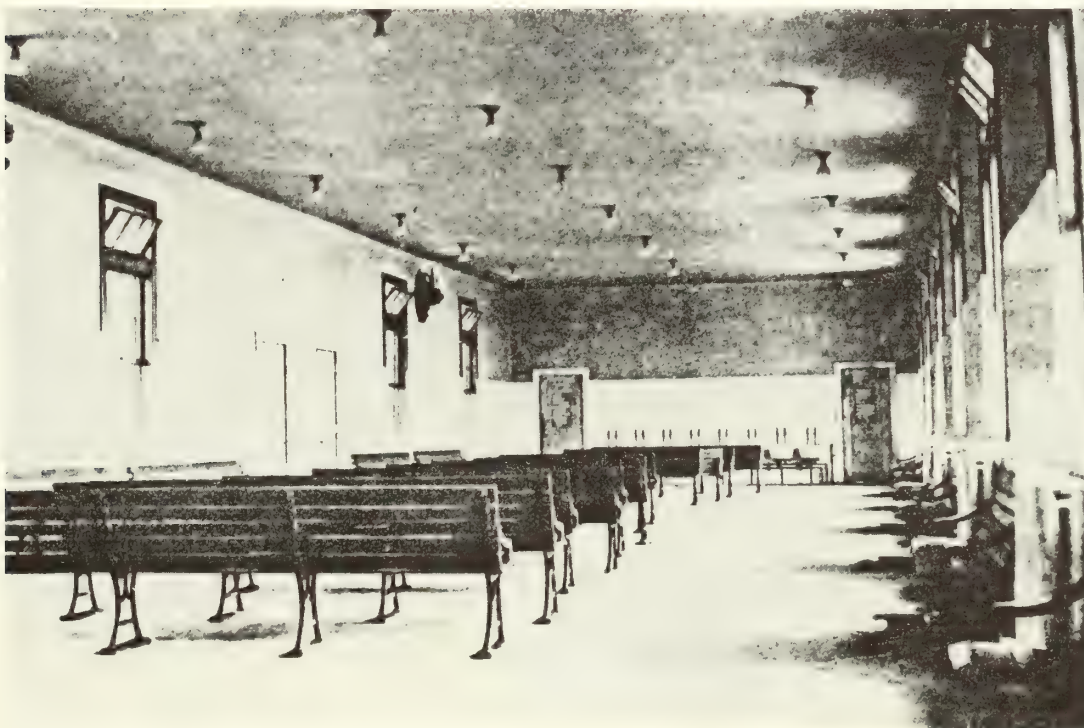
1910-1924

With the building of the third story on the northwest wing in 1911, additional space was created for the special inquiry process. An early view of one such "special inquiry room" (303) dated to 1911-1912 (photo 10) suggests interior finishes associated with other rooms built or altered during this period. The present floor of large tan glazed hexagonal tiles is original. The walls and columns are finished with a white tile dado and no base. The upper walls and ceiling are of plain plaster and were originally painted a cream color. The original window enframements are of white marble below and shellacked wood above, the latter having been completely removed and replaced during the recent rehabilitation. The original door enframements include two types: full marble surrounds and full wood surrounds. The doors are completely sheathed in galvanized sheet metal with decorative brass tacking. The doors and enframements retain their original black stenciled numbers and letters. The doors are unique in the wealth of early graffiti found incised directly on the unpainted metal.

Paint samples from the plaster walls, ceiling, and wood work indicate that the walls and ceiling were initially and continuously painted cream, the woodwork originally shellacked, and the doors unpainted. The only lighting fixtures evident in the 1911-1912 photograph are a series of ceiling lights, the bases of which still exist. (The drawings for this fixture is illustrated on page 216. Photo 5 on page 223 shows the extant base.) Surviving designs from 1908-1909 of decorative wall fixtures identical to those presently in the room suggest an early installation date before 1924.



9. Board room, view southwest, 1911-1913. William Williams Papers, Vol. II. p. 20 (back). New York Public Library, Manuscripts and Archives Division.



10. Special inquiry room, view south, 1911-1913. William Williams Papers, Vol. II, p. 58 (back). New York Public Library, Manuscripts and Archives Division.

1924-Present

In 1924 the present sinks were added to the north end when the room was altered into a dormitory. By World War II, photographic evidence suggests that the doors and enframements were painted dark, probably grey.

SITE: ELLIS ISLAND NATIONAL MONUMENT
ROOM: SPECIAL INQUIRY ROOM (303)
LOCATION: MAIN BUILDING

| | 1900 | 1902-03 | 1908-17 | 1918-24 | 1924-pr. |
|----------------|------|---------|---------|-------------------------------|-------------------------------|
| <u>Floor</u> | - | - | - | tile | tile |
| <u>Base</u> | - | - | - | - | - |
| <u>Walls:</u> | | | | | |
| <u>Dado</u> | - | - | - | tile | tile |
| <u>Rail</u> | - | - | - | - | - |
| <u>Field</u> | - | - | - | cream | cream |
| <u>Cornice</u> | - | - | - | - | - |
| <u>Ceiling</u> | - | - | - | cream | cream |
| <u>Trim</u> | - | - | - | marble & varnished wood | marble & varnished wood |
| <u>Doors</u> | - | - | - | unpt.galv. iron | unpt.galv. iron |
| <u>Windows</u> | - | - | - | varnished | varnished later grey |

c. Existing Conditions

1. Drawings

The drawings of record prepared by The Ehrenkrantz Group in 1979, were found to have inaccuracies. For example, certain partitions depicted on their plans do not in fact exist while other partitions which are extant are not shown. In addition, there are minor errors involving doors and fixtures.

In September 1983 the A/E team undertook the measurement of the main building. Accurate plans and sections were prepared at 1/8" scale (exhibits 4-11).

An additional component of the documentation effort was rectified photography of the registry room (see Appendix D).

2. Survey

In September 1983 a survey of the interior spaces was conducted to evaluate existing conditions. The survey consisted of a room-by-room analysis of all visually accessible finishes, decorative trim, doors, lighting, plumbing, heating and ventilation equipment. Forms were completed for 274 spaces (exhibits 12 & 13 are sample forms). The surface materials and fixtures in each space are described on these forms and assessed for their existing condition and approximate date. A summary condition and date was tabulated based on this information. Photographs of each room supplement the written description (the complete survey is included as Appendix A).

ARCHITECTS

**BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960**

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

**MECHANICAL &
ELECTRICAL ENGINEERS**

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 35 of 70 |
| DSC | JUL 88 |

MAIN BUILDING ELLIS ISLAND

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**

[illegible]

| | | | |
|----------|-----|-------------|------|
| mk | shl | REVISIONS | date |
| DESIGNED | | DATE | |
| DRAWN | | TECH REVIEW | |

KEY PLAN


$$1/10'' = 1'-0''$$

TITLE OF SHEET

BASEMENT PLAN

| | | |
|---------------|-------------|---|
| SUB SHEET NO. | DRAWING NO. | |
| EX-1 | PKG. NO. | SHEET |
| | ____ | <div style="border: 1px solid black; width: 50px; height: 30px;"></div> |
| | ____ | |
| | ____ | |
| | ____ | |

UNITED STATES DEPARTMENT
OF THE INTERIORNATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

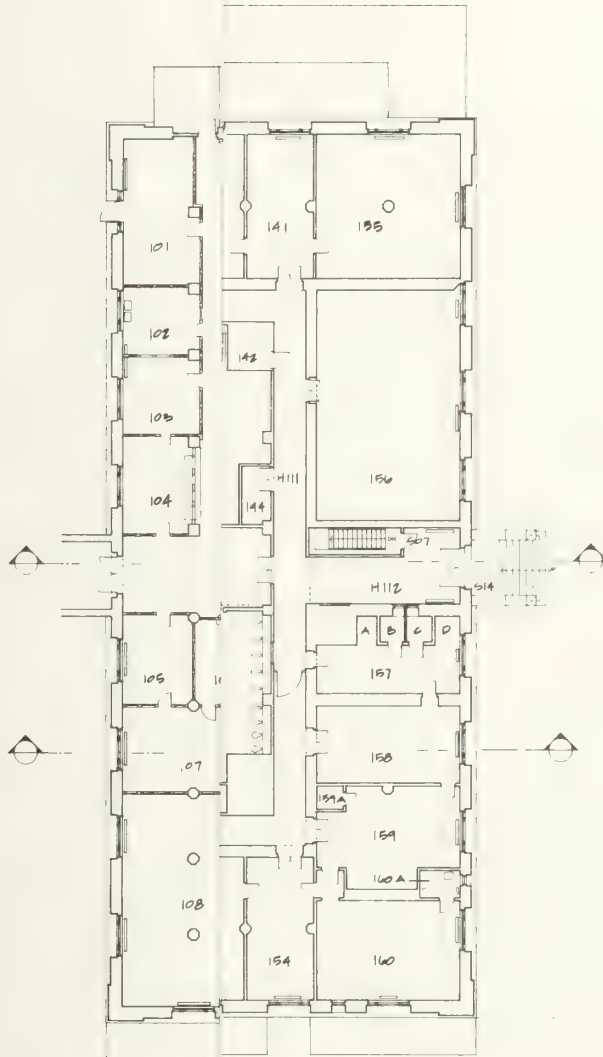
SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 36 of 70 |
| DSC | JUL 88 |

MAIN
BUILDING
ELLIS
ISLANDSTATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| | | | | |
|----|-----|-----------|------|-----|
| mk | sht | REVISIONS | date | ini |
|----|-----|-----------|------|-----|

DESIGNED:

DATE:

DRAWN:

TECH REVIEW:

KEY PLAN



TITLE OF SHEET

FIRST FLOOR PLAN
EXISTING CONDITIONS

SUB SHEET NO.

DRAWING NO.

PKG.
NO.

SHEET

OF

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 36 of 70
DSC | JUL 88

**MAIN
BUILDING
ELLIS
ISLAND**

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk shl REVISIONS date

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN



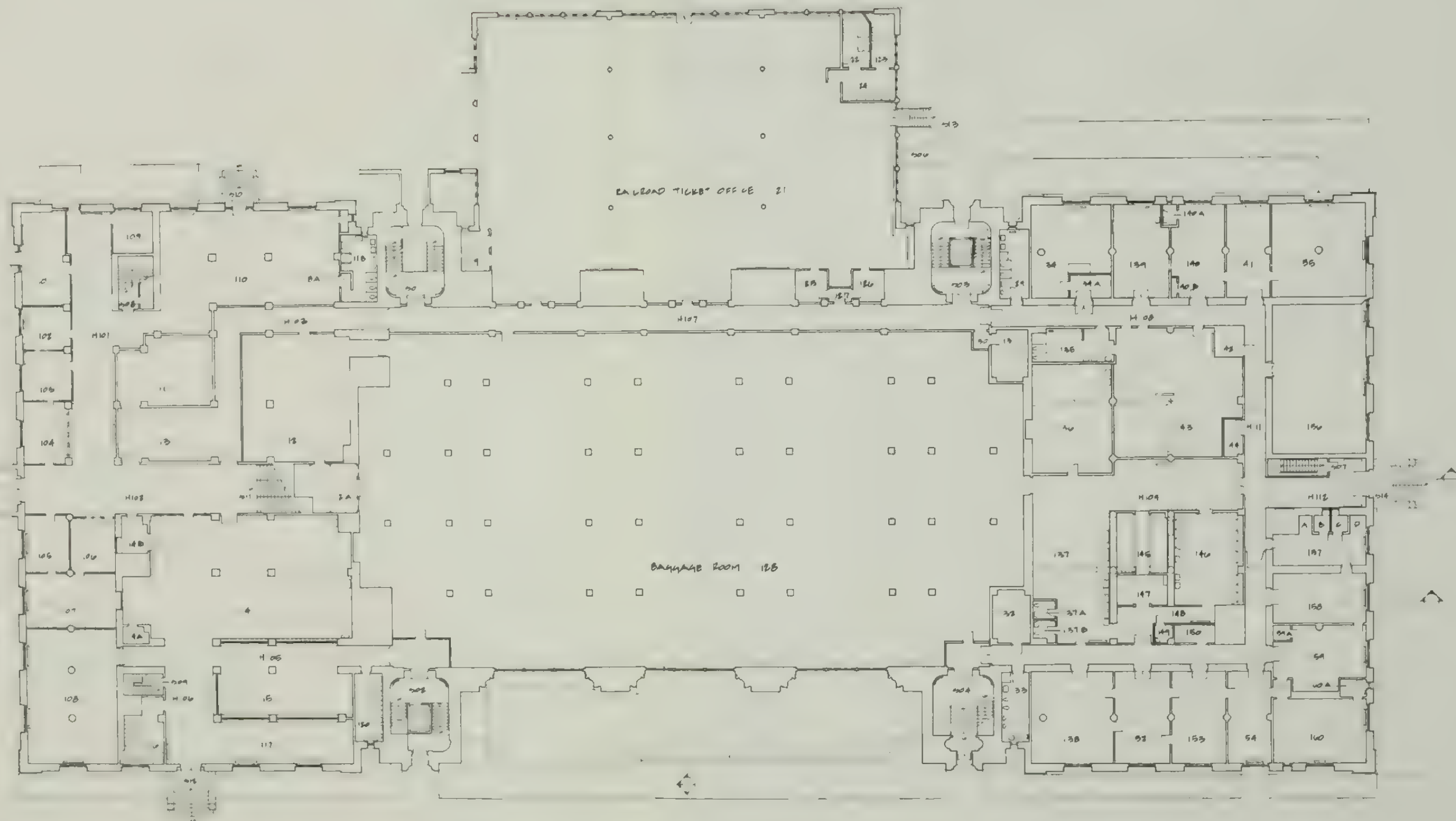
TITLE OF SHEET

FIRST FLOOR PLAN
EXISTING CONDITIONS

SUB SHEET NO

DRAWING NO

PKG
NO
SHEET
OF



UNITED STATES DEPARTMENT
OF THE INTERIOR

**NATIONAL PARK SERVICE
DENVER SERVICE CENTER**

ARCHITECTS

**BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD**

80 FIFTH AVENUE
NEW YORK, NY 10114

(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

**MECHANICAL &
ELECTRICAL ENGINEERS**

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

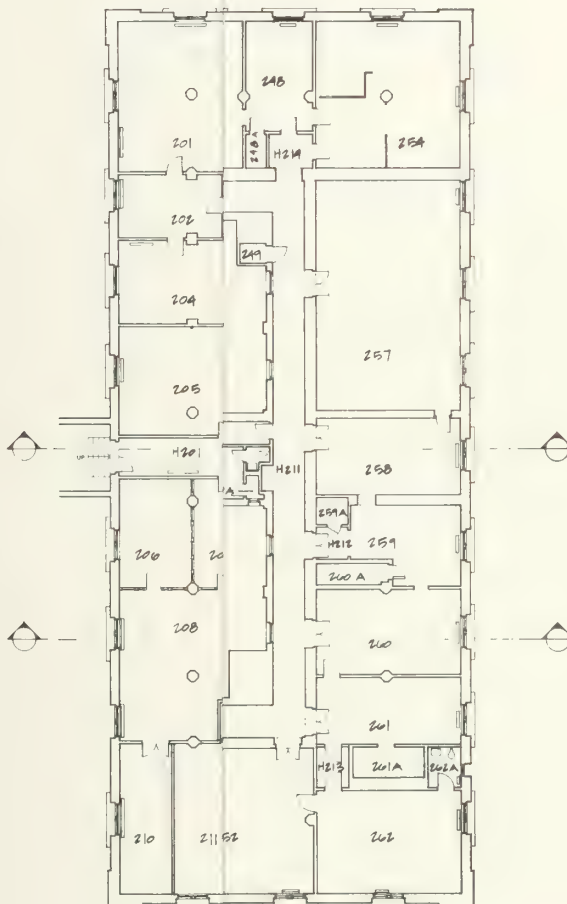
MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 37 of 70 |
| DSC | JUL 88 |

MAIN BUILDING ELLIS ISLAND

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**



| | | | | |
|----|-----|-----------|------|-----|
| mk | sht | REVISIONS | date | ini |
|----|-----|-----------|------|-----|

| | |
|-----------|--------------|
| DESIGNED: | DATE: |
| DRAWN: | TECH REVIEW: |

KEY PLAN



TITLE OF SHEET

SECOND FLOOR PLAN
EXISTING CONDITIONS

| | | |
|---------------|---|---|
| SUB SHEET NO. | DRAWING NO. | |
| | PKG. NO. _____ _____ _____ _____ | SHEET <div style="border: 1px solid black; width: 100px; height: 50px; margin: 10px auto;"></div> OF _____ |

OF _____

UNITED STATES DEPARTMENT
OF THE INTERIOR

**NATIONAL PARK SERVICE
DENVER SERVICE CENTER**

ARCHITECTS

**BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD**
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

**MECHANICAL &
ELECTRICAL ENGINEERS**

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 38 of 70 |
| DSC | JUL 88 |

MAIN BUILDING ELLIS ISLAND

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**

[illegible]

| | | | | |
|----|-----|-----------|------|-----|
| mk | sht | REVISIONS | date | ini |
|----|-----|-----------|------|-----|

DESIGNED:

DATE: _____

DRAWN:

TECH REVIEW:

KEY PLAN



TITLE OF SHEET

THIRD FLOOR PLAN
EXISTING CONDITIONS

SUB SHEET NO.

DRAWING NO.

| | |
|------|--|
| PKG. | |
|------|--|

SHEET

110

11

OF



NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

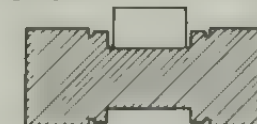
356 | 26,002 / 38 of 70
DSC | JUL 88MAIN
BUILDING
ELLIS
ISLANDSTATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk aht REVISIONS dble mb

DESIGNED DATE

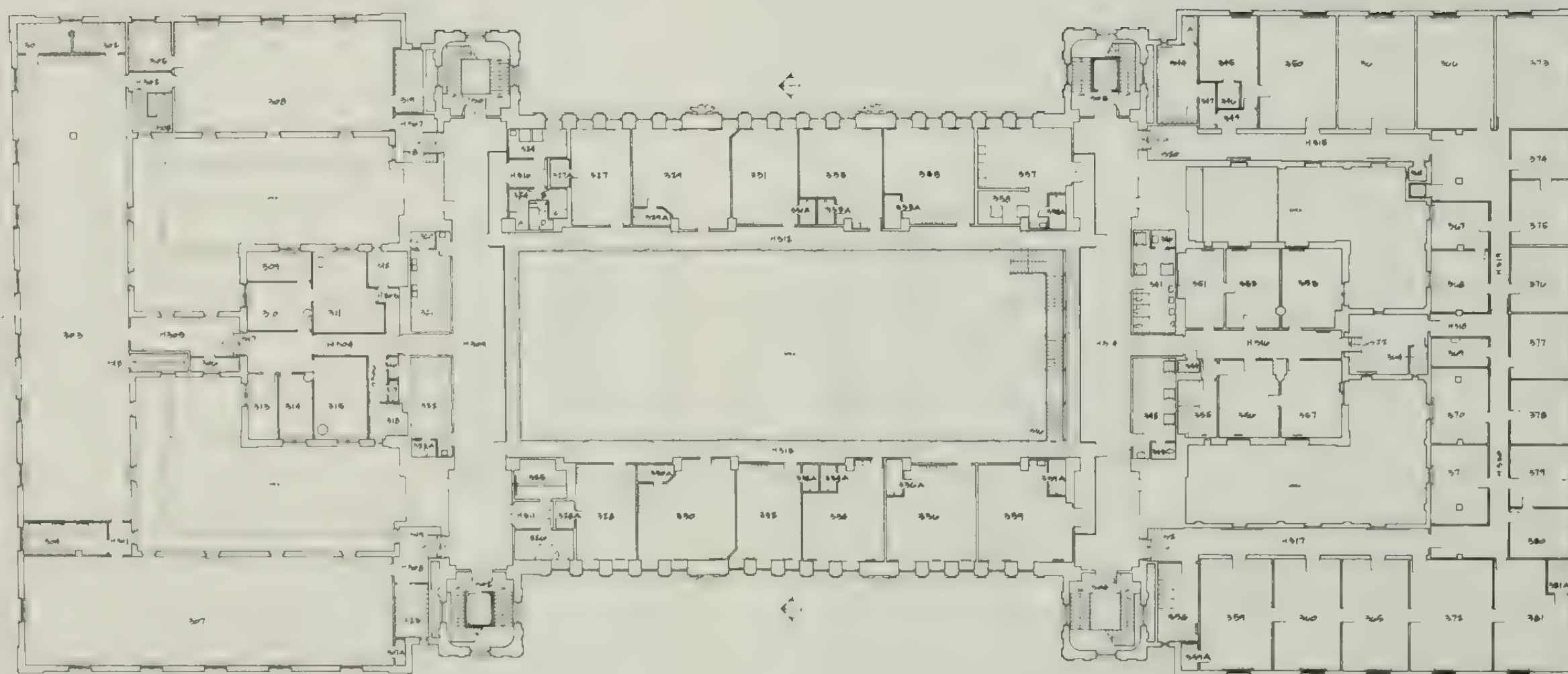
DRAWN TECH REVIEW

KEY PLAN

TITLE OF SHEET
THIRD FLOOR PLAN
EXISTING CONDITIONS

SUB SHEET NO DRAWING NO

| | |
|-----------|-------|
| PKG NO | SHEET |
| --- | --- |
| --- | --- |
| --- | OF |



UNITED STATES DEPARTMENT
OF THE INTERIORNATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 39 of 70 |
| DSC | JUL 88 |

MAIN BUILDING ELLIS ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| | | | |
|----|-----|-----------|------|
| mk | sht | REVISIONS | date |
|----|-----|-----------|------|

DESIGNED

DATE

DRAWN

TECH REVIEW

KEY PLAN



TITLE OF SHEET

SECTIONS DI & E

SUB SHEET NO

DRAWING NO

EX-26

PKG
NO.

SHEET

OF

8 0 8 16
SCALE OF FEET

ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS
ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 39 of 70 |
| DSC | JUL 88 |

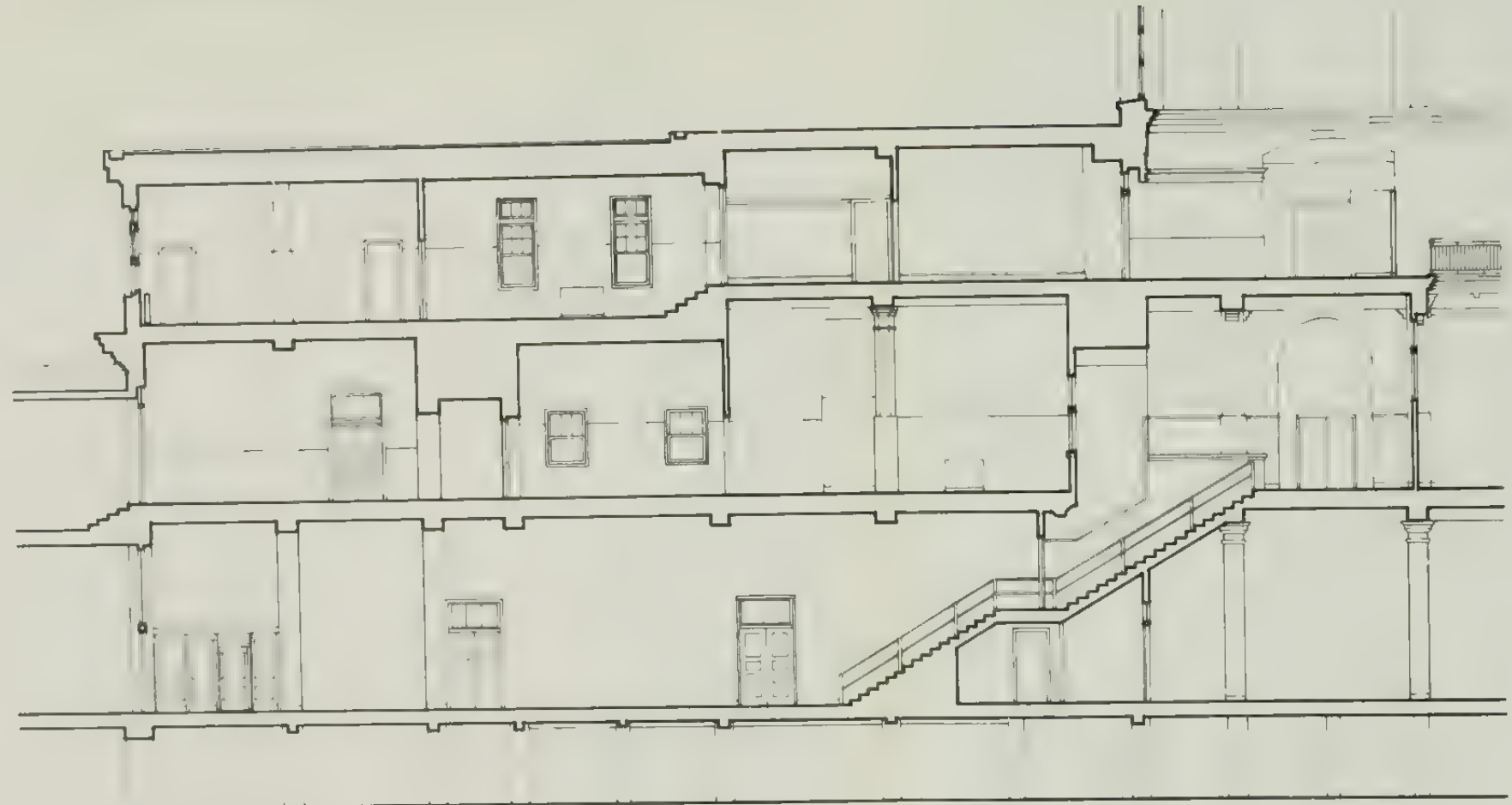
**MAIN
BUILDING
ELLIS
ISLAND**
STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| mk | sh | REVISIONS | date | int |
|----------|----|-------------|------|-----|
| DESIGNED | | DATE | | |
| DRAWN | | TECH REVIEW | | |

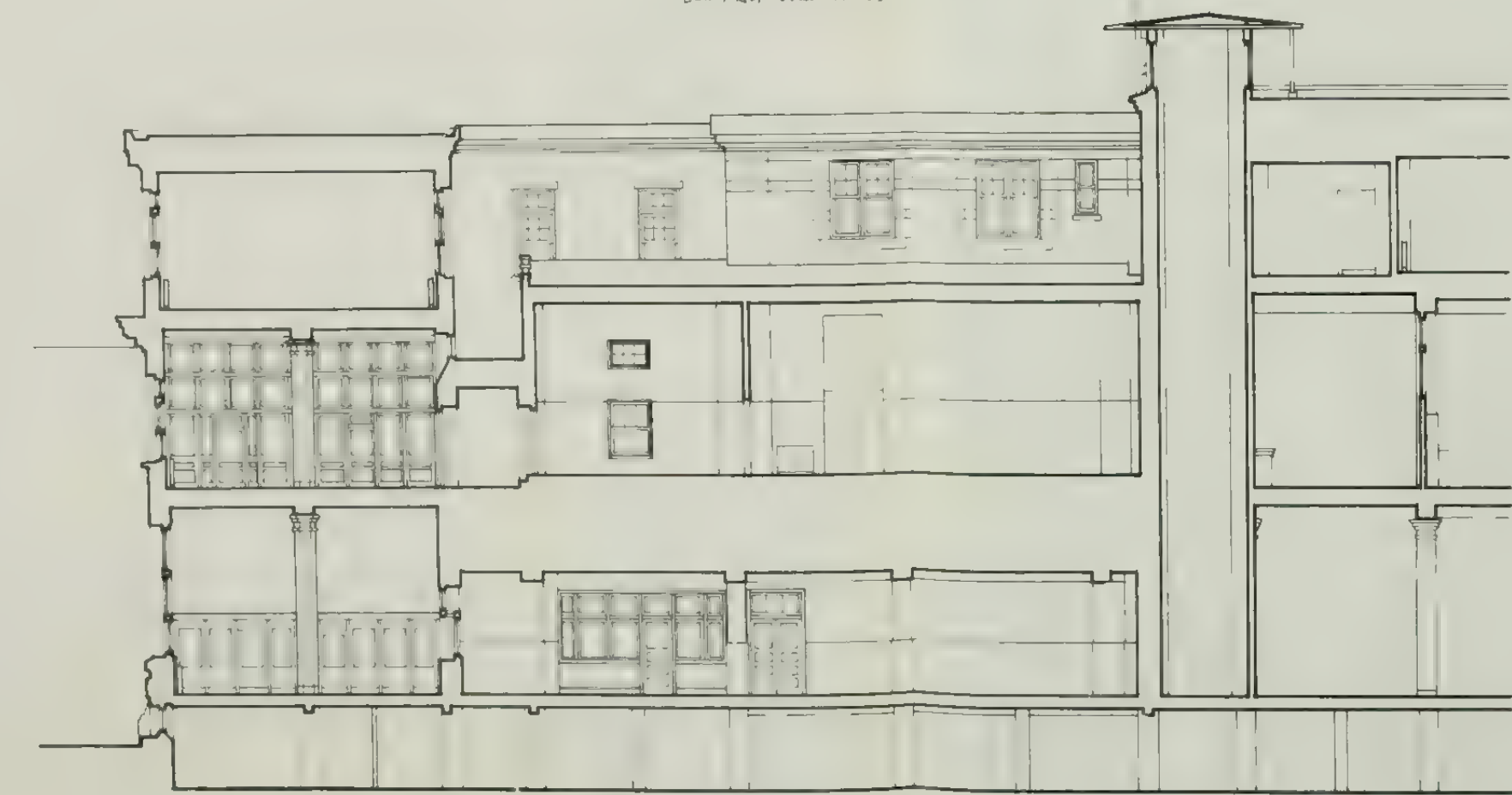


TITLE OF SHEET
SECTIONS D1 & E

| | |
|--------------|------------|
| SUB SHEET NO | DRAWING NO |
| EX-26 | 2 |
| PKG NO | SHEET |
| | OF |



SECTION D1
EXISTING CONDITIONS



SECTION E
EXISTING CONDITIONS



SCALE OF FEET

[illegible]

SCALE OF FEET

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

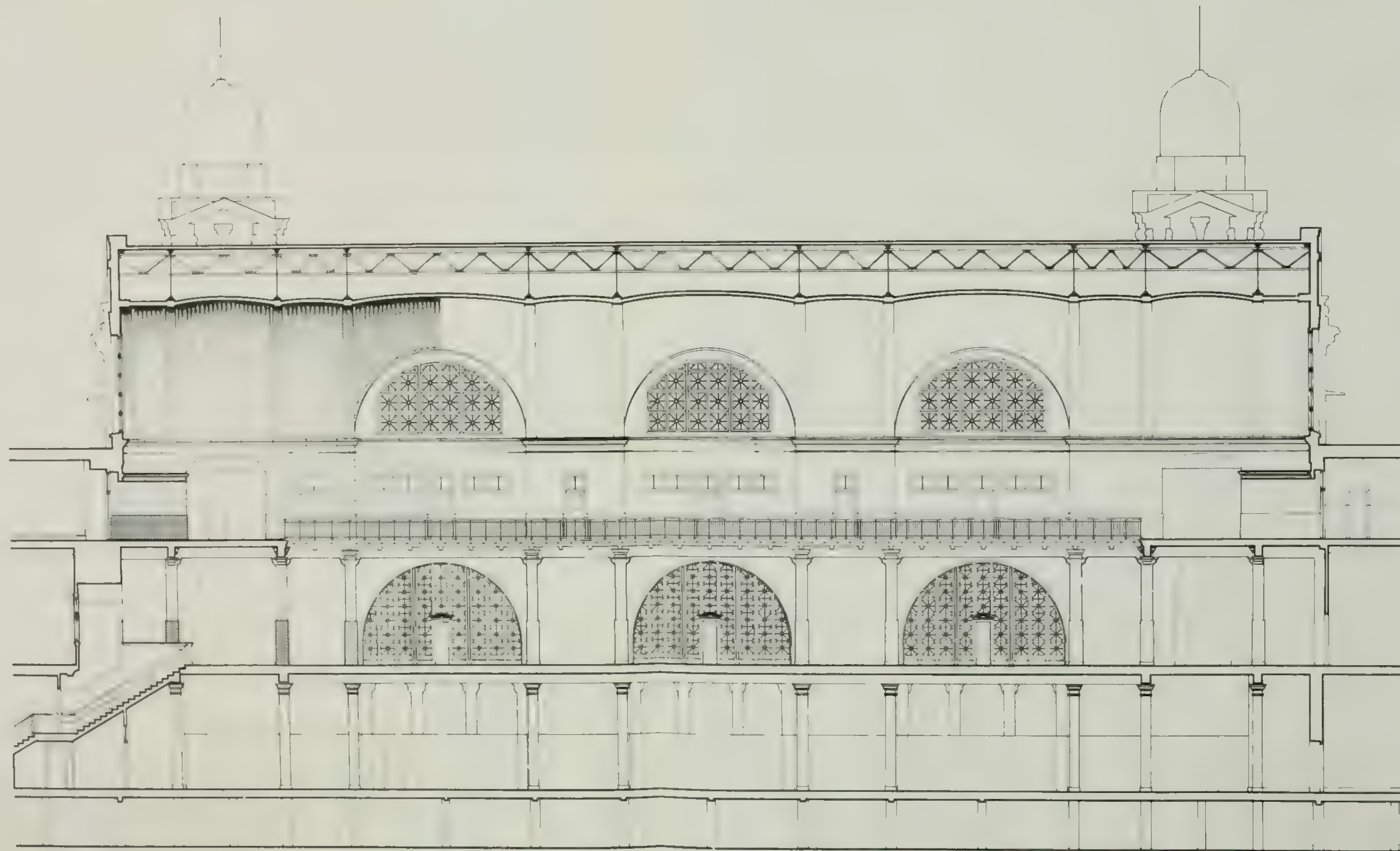
MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 40 of 70
DSC | JUL 88

**MAIN
BUILDING
ELLIS
ISLAND**

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY



SECTION D2
EXISTING CONDITIONS

8 0 8 18
SCALE OF FEET

REVISIONS

| DESIGNED | DATE |
|----------|------|
| | |

| DRAWN | TECH REVIEW |
|-------|-------------|
| | |

KEY PLAN



TITLE OF SHEET

SECTION D2

SUB SHEET NO

EX-27

DRAWING NO

24

SHEET

OF

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3980

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 26,002 / 41 of 70
DSC JUL 88

MAIN
BUILDING
ELLIS
ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY



SECTION D3
EXISTING CONDITIONS



SECTION F
EXISTING CONDITIONS

8 0 8 16
SCALE OF FEET

mk sm REVISIONS date in

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN



TITLE OF SHEET

SECTIONS D3 & F

SUB SHEET NO

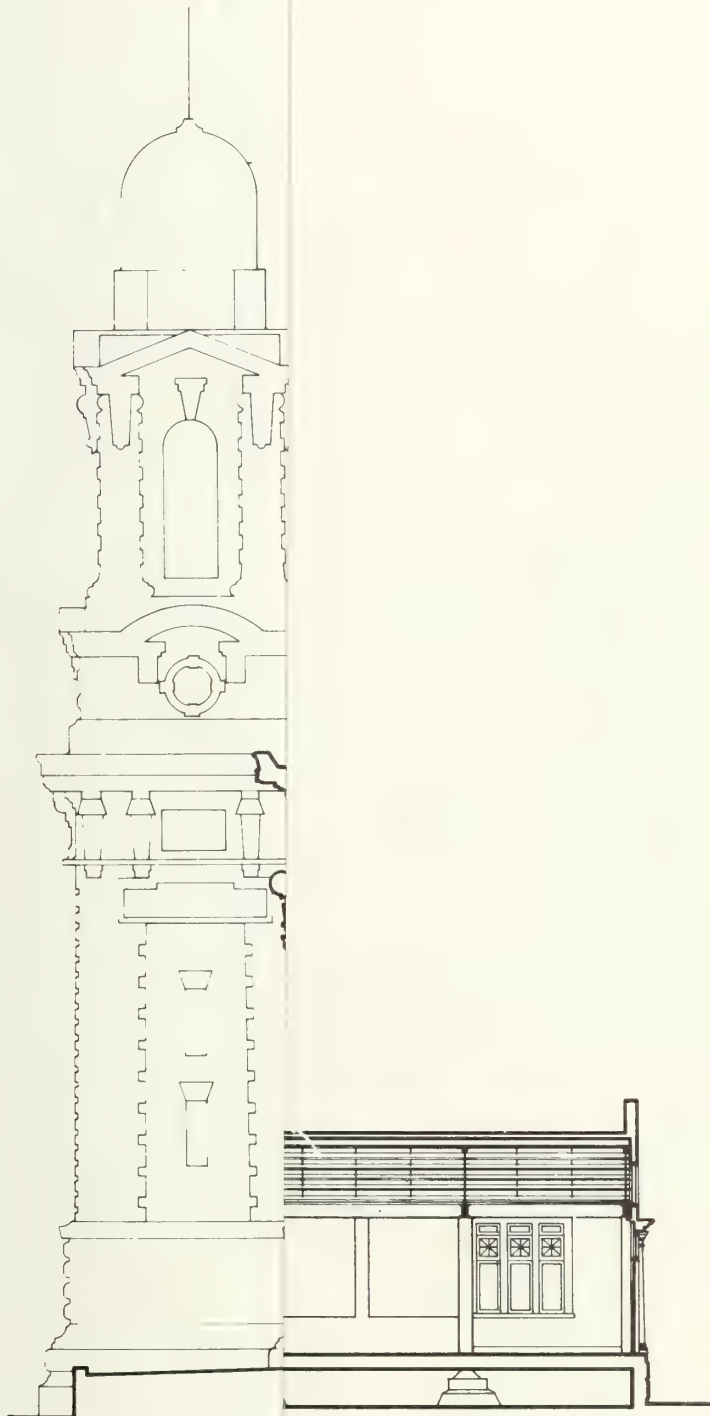
EX-28

DRAWING NO

5

PKG NO SHEET

OF



NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3980

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 42 of 70
DSC | JUL 88

MAIN
BUILDING
ELLIS
ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk aht REVISIONS date

DESIGNED

DATE

DRAWN

TECH REVIEW

KEY PLAN



TITLE OF SHEET

SECTION D

1/8" = 1'-0"

SUB SHEET NO.

DRAWING NO

EX-29

PKG
NO

SHEET

OF



SECTION D

ROOM NO: 128

LAST KNOWN USE: Record Room

SQUARE FEET: 17,029.25 s.f.

CEILING HEIGHT: 18'-5"

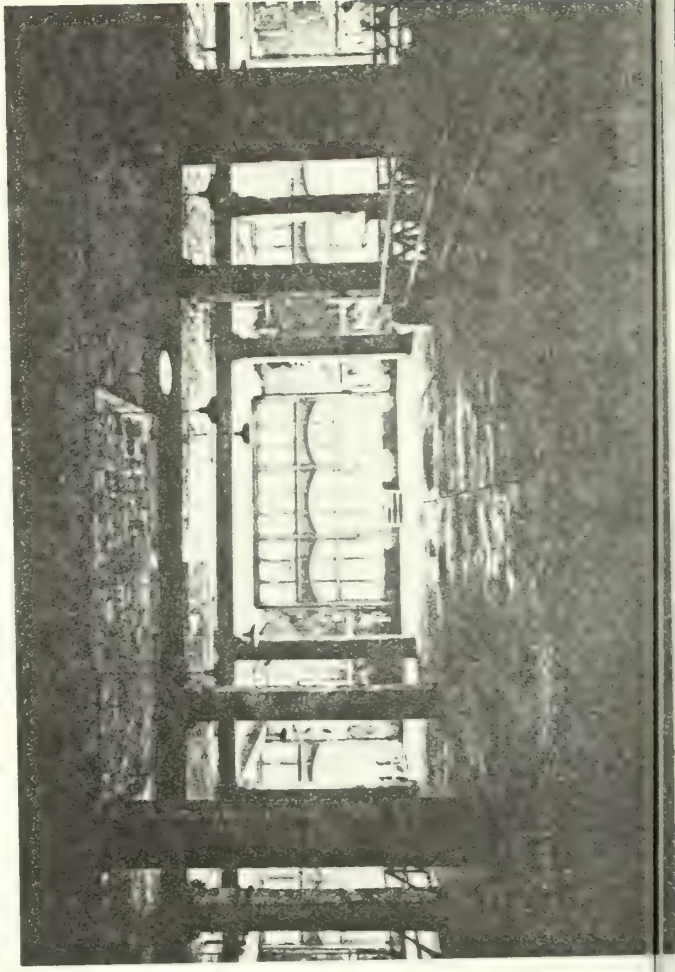
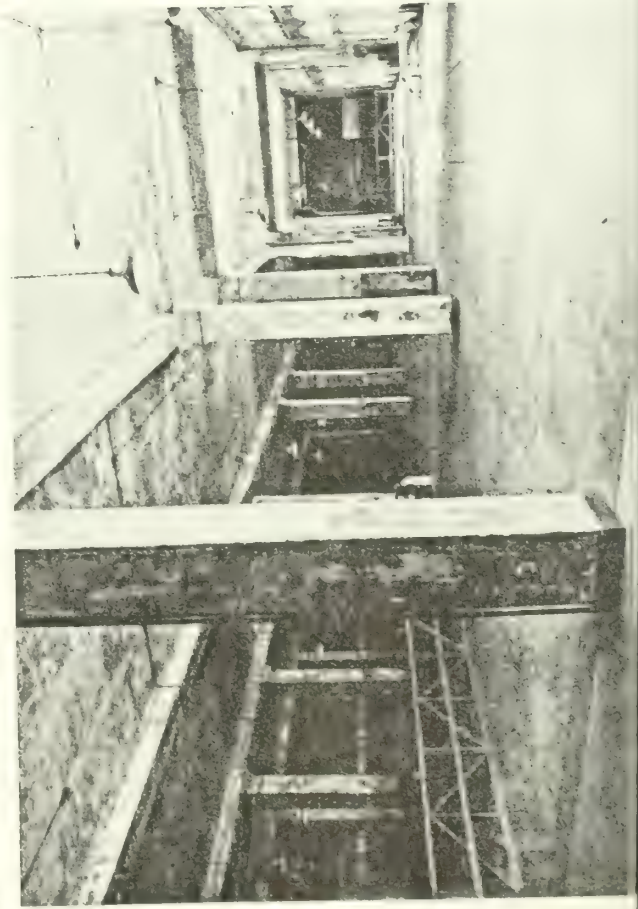
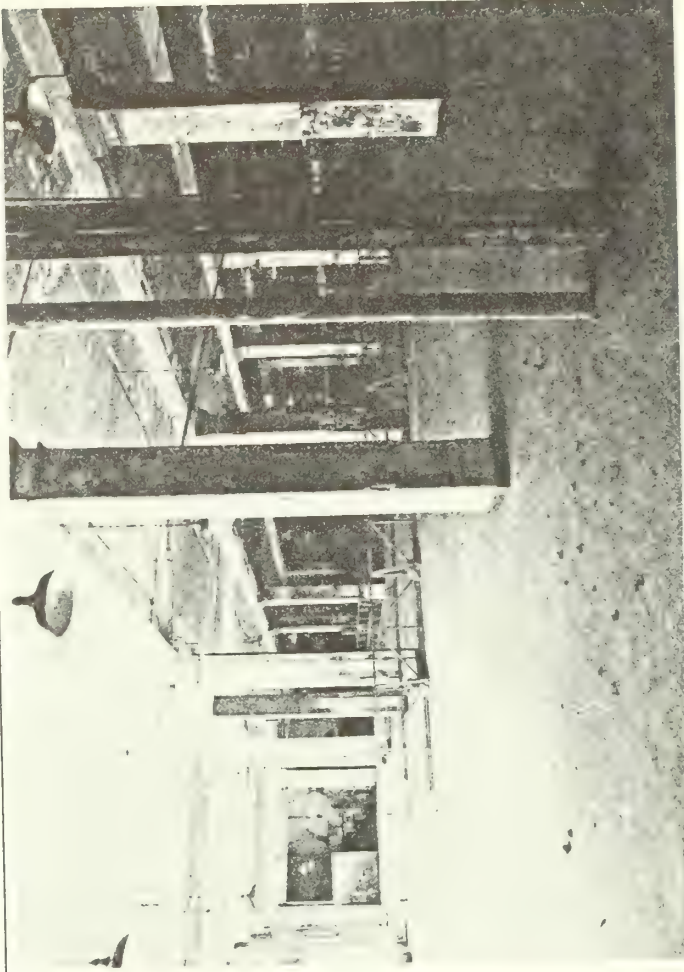
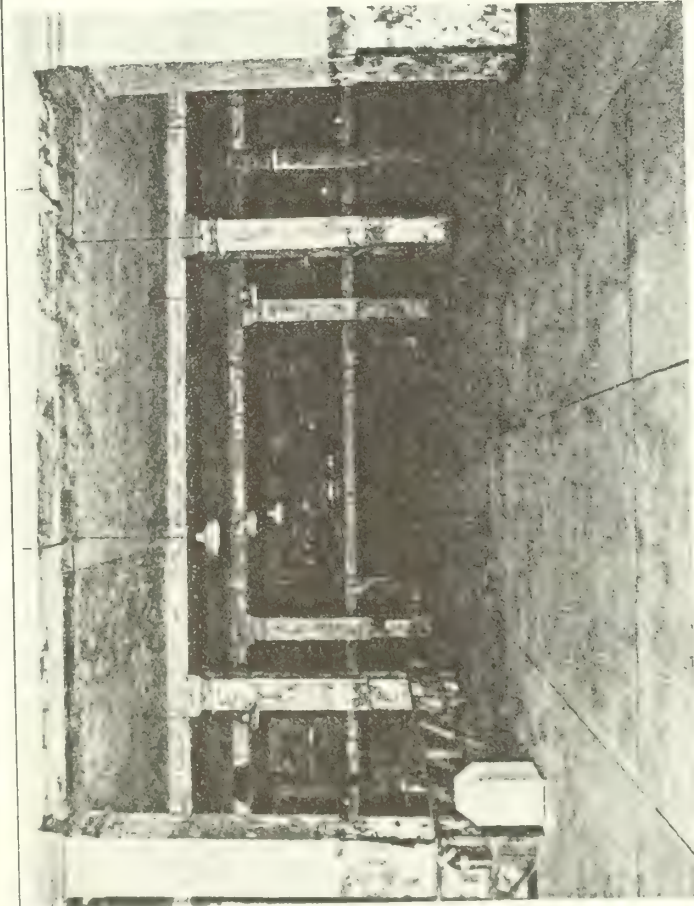
DATE: 23 Sept. 1983

EXHIBIT 12

| | | |
|---|---|--|
| <div> <div>DESCRIPTION:</div> <div> <div>BAGGAGE ROOM</div> <div> <div>General:</div> <div>Large central space on the first floor with a colonnade of square columns. The south wall is dominated by large segmental windows.</div> </div> </div> <div> <div>Floor:</div> <div>Tile on the sides of the room: hexagonal 1¼" tile with borders of 3" sq. tile. Concrete floor in the center of the room (1937).</div> </div> <div> <div>Base:</div> <div>Red tile to a height of 6".</div> </div> <div> <div>Walls:</div> <div>Plaster over terra cotta block on the west, east, and south walls. The north wall, added post-1937, has wire mesh above plaster.</div> </div> <div> <div>Ceiling:</div> <div>Plaster over terra cotta block. Columns support beams along the ceiling. Cove ceiling at south end.</div> </div> <div> <div>Doors/ Openings:</div> <div>Wood doors and galvanized metal double doors with windows.</div> </div> <div> <div>Lighting:</div> <div>Suspended fixtures and wall sconces. The suspended fixtures date from 1936.</div> </div> <div> <div>Heating:</div> <div>11 radiators, 2 fans mounted on columns. Vents in various locations. Electric box on west wall.</div> </div> <div> <div>Misc.:</div> <div>Columns.</div> </div> </div> | <div> <div>CONDITION:</div> <div> <div>Floor:</div> <div>The overall condition is fair. Tile has numerous small patched areas and cracks. Concrete has some large cracks and small patched areas.</div> </div> <div> <div>Base:</div> <div>Good condition.</div> </div> <div> <div>Walls:</div> <div>The overall condition is fair. Major areas of terra cotta block exposed on the south wall and in the northeast corner. Patches of base coat exposed in various locations. West wall: Narrow opening for a pipe.</div> </div> <div> <div>Ceiling:</div> <div>Generally in good condition.</div> </div> <div> <div>Doors/ Openings:</div> <div>The wood doors are in good condition. One of the galvanized metal doors is badly corroded, while the other is missing.</div> </div> <div> <div>Lighting:</div> <div>The suspended fixtures are in fair condition with shades but no globes. The wall sconces are corroded.</div> </div> <div> <div>Heating:</div> <div>Radiators are in fair condition with some rust. Electric box and fans are corroded.</div> </div> <div> <div>Misc.:</div> <div>Brick is totally exposed on one column. One steel column is exposed. Many columns have rusted corner guards.</div> </div> </div> | <div> <div> <div> <div>1900-1906</div> <div>1907-1923</div> <div>1924-Present</div> </div> <div> <div>X</div> <div></div> <div></div> </div> </div> <div> <div> <div>Good</div> <div>Fair</div> <div>Poor</div> </div> <div> <div></div> <div>X</div> <div></div> </div> </div> <div> <div> <div> <div>○</div> <div>○</div> <div>○</div> <div>○</div> </div> </div> </div> <div> <div>SUMMARY:</div> </div> <div> <div>ARCHITECTURAL SIGNIFICANCE:</div> <div> <div>Most</div> <div>Some</div> <div>Minor</div> </div> <div> <div>X</div> <div></div> <div></div> </div> </div> </div> |
|---|---|--|

197

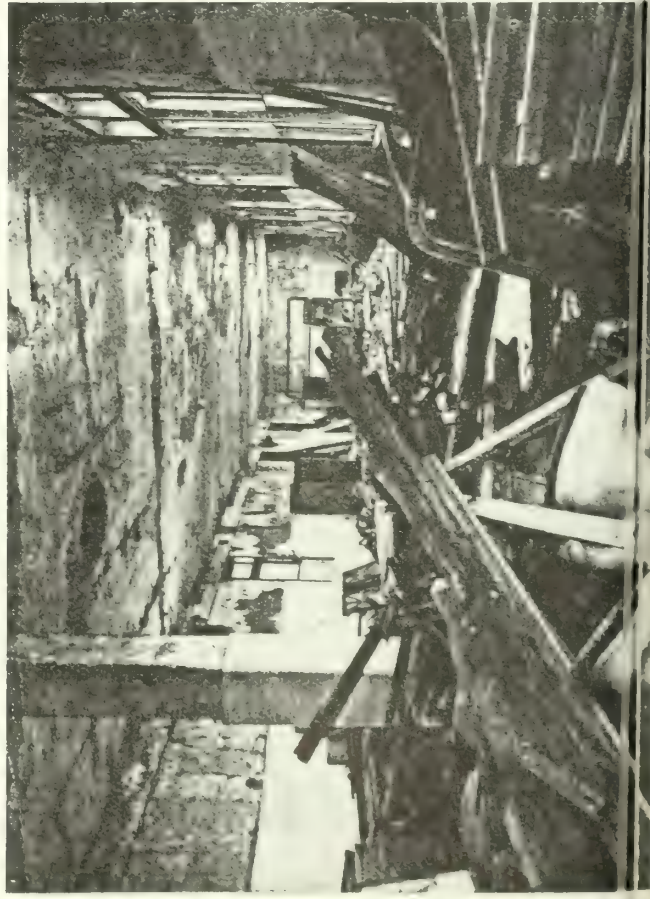
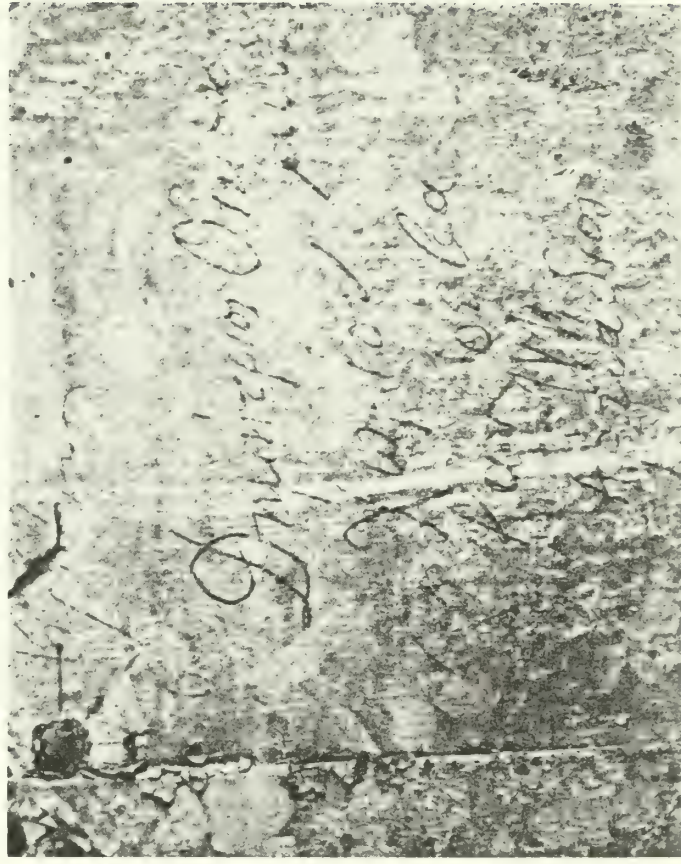
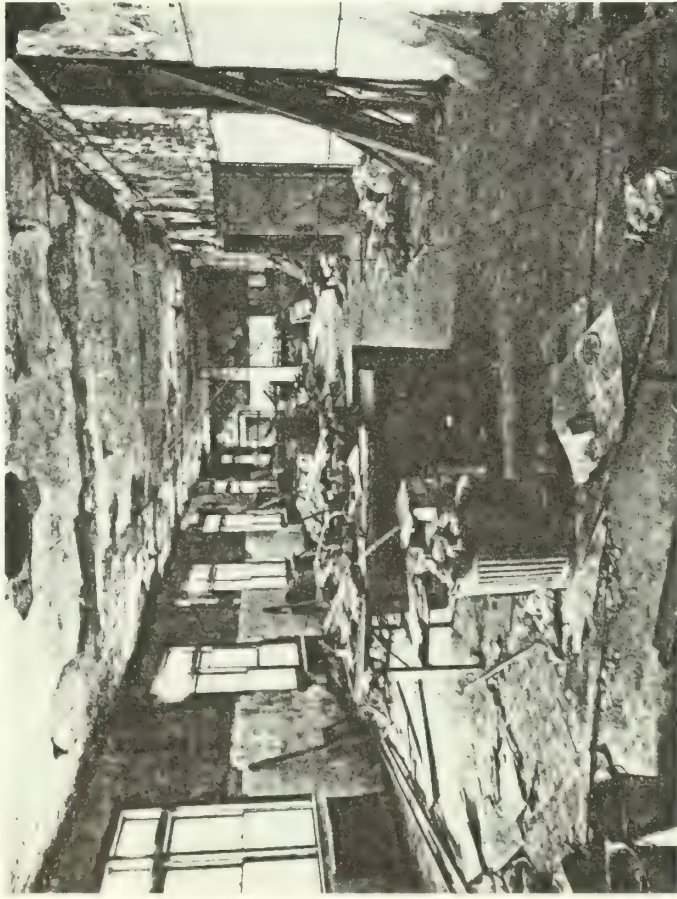
PHOTOGRAPHS: 1. View north 2. View northeast 3. View northwest 4. View south



PHOTOGRAPHS: (1) View north. (2) View south

(3) Graffiti on Door.

ROOM NO. 303



The condition of each space was evaluated according to criteria that were specifically developed for the main building on Ellis Island. A range of conditions was defined for each material in the building following careful field inspection. The condition of a finish was evaluated relative to other similar finishes in this building using the standard terms "good", "fair", "poor", and "destroyed". Since the main building has experienced extensive deterioration no surfaces or fixtures were considered to be in "excellent" condition (exhibit 14 is an example of the definitions that were used for a particular finish).

The results of the condition survey have been plotted on graphically-coded floor plans which illustrate the relative condition of each space (exhibits 15-17).

3. Architectural Significance

The existing condition survey also evaluated the rooms in the main building for architectural significance.

A range of significance was developed for existing architectural spaces in the structure. The ranking of spaces for architectural significance is relative to the specific architectural context of this building. Certain factors were considered in evaluating the spaces:

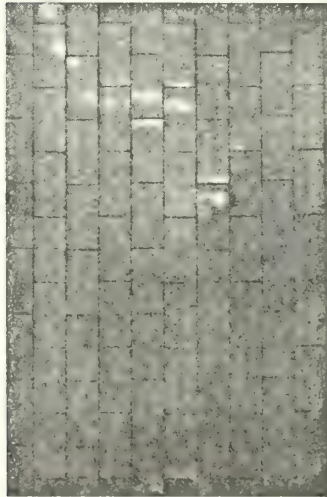
- Volume, size, monumentality, proportions
- Quality of materials
- Overall design
- Uniqueness of the design, rare features.

The classification of "most architectural significance" was assigned to spaces which have the greatest

BASE Tile / Tile Wainscot

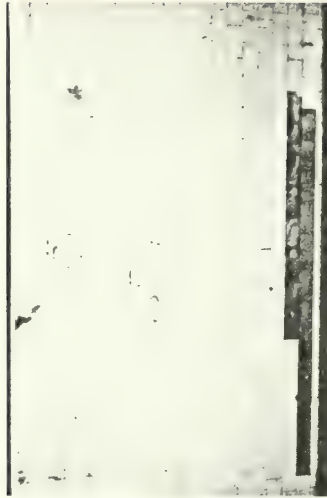
GOOD

85-100% intact.
Few or no cracks forming. Minimum number of tiles missing.



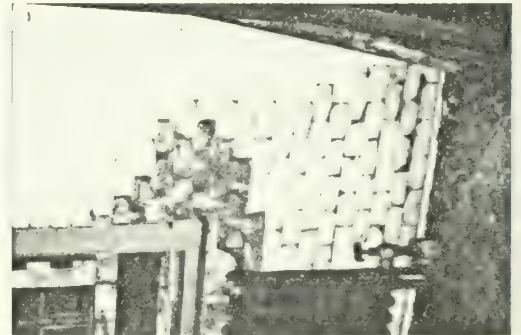
FAIR

60-85% intact.
Some cracks in localized areas.
Some tiles missing.



POOR

30-60% intact.
Large areas missing, sizable cracks present.



DESTROYED

0-30% intact.
Material is completely missing or is destroyed beyond practical retrieval.



NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

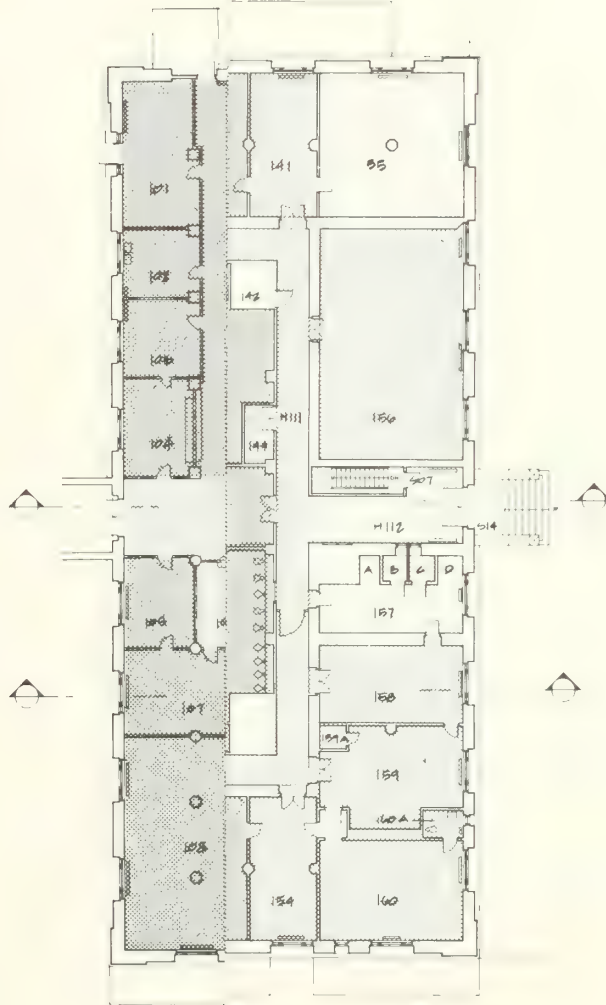
LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 43 of 70

DSC | JUL 88

MAIN
BUILDING
ELLIS
ISLANDSTATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

ING CONDITION

GOOD

FAIR

POOR

DESTROYED

mk sht REVISIONS date inl

DESIGNED:

DATE:

DRAWN:

TECH REVIEW:

KEY PLAN



TITLE OF SHEET

FIRST FLOOR PLAN

SUB SHEET NO.

DRAWING NO.

CI-1

PKG NO.

SHEET

OF

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SELMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

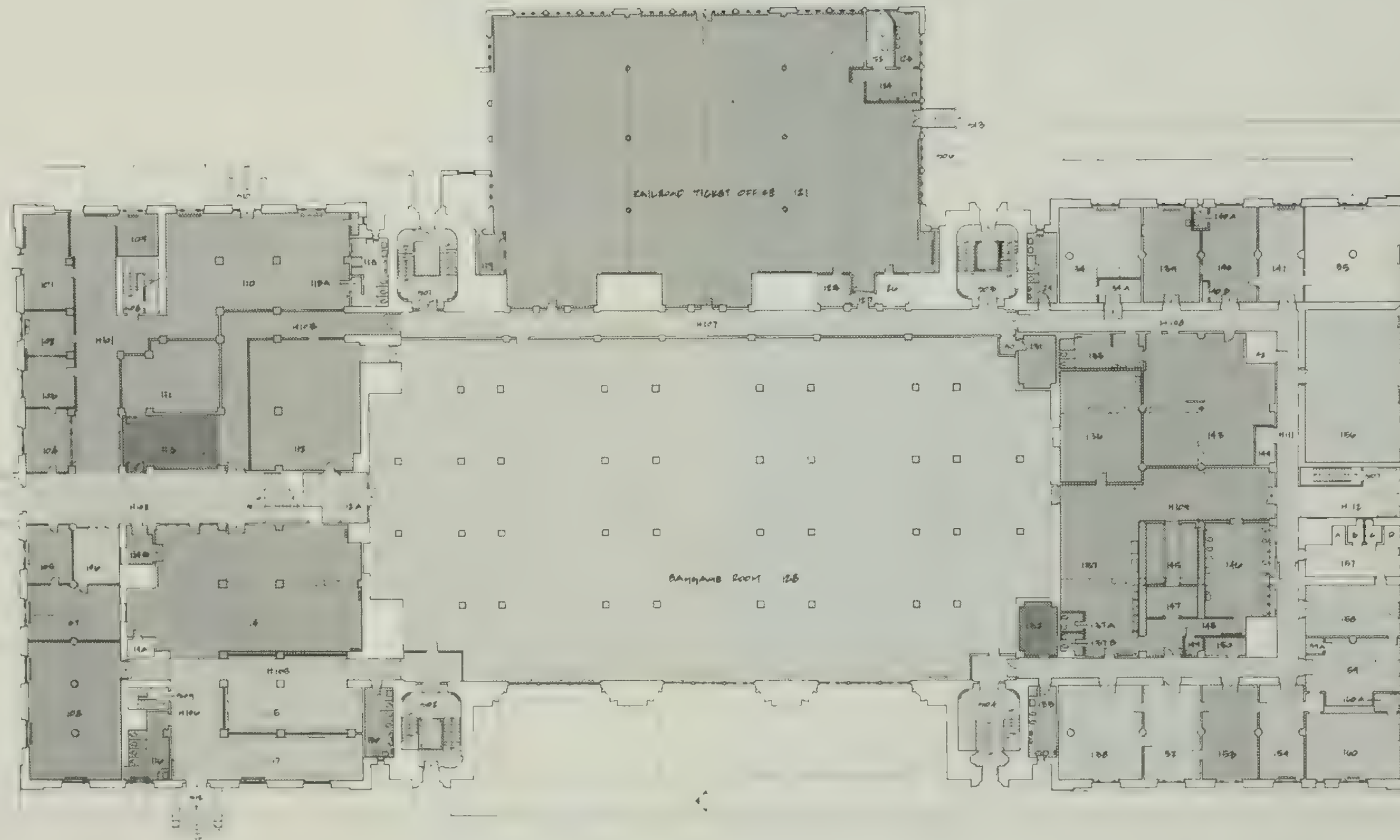
BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 26,002 / 43 of 70
DSC JUL 88**MAIN
BUILDING
ELLIS
ISLAND**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

FIRST FLOOR PLAN

EXISTING CONDITION

GOOD
FAIR
POOR
DESTROYED

mk shl REVISIONS date inl

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN



TITLE OF SHEET

FIRST FLOOR PLAN

SUB SHEET NO DRAWING NO

CI-1

PKG
NO
SHEET
OF

UNITED STATES DEPARTMENT
OF THE INTERIORNATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD80 FIFTH AVENUE
NEW YORK, NY 10114

(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

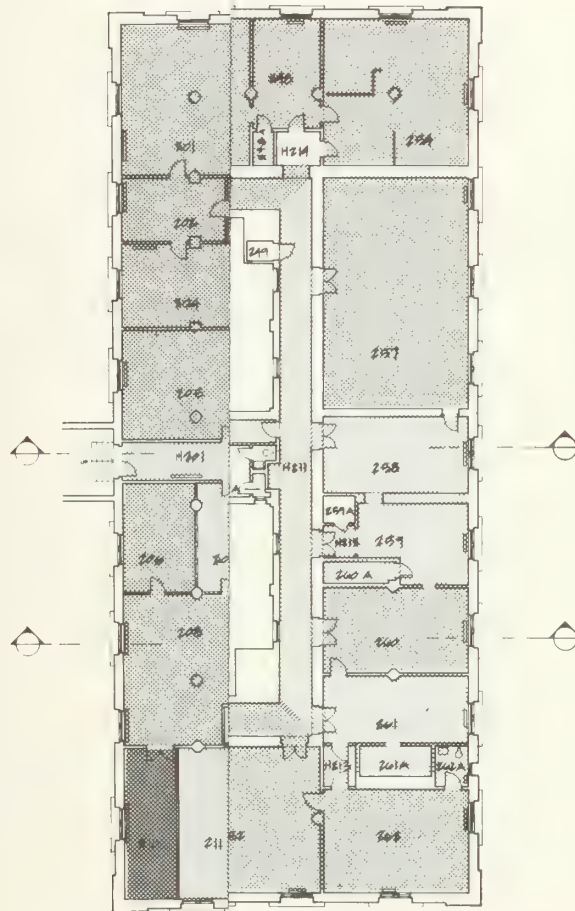
LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 44 of 70

DSC | JUL 88



ING CONDITION

GOOD

FAIR

POOR

DESTROYED

MAIN
BUILDING
ELLIS
ISLANDSTATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk sht REVISIONS date in

DESIGNED:

DATE:

DRAWN:

TECH REVIEW:

KEY PLAN



TITLE OF SHEET

SECOND FLOOR PLAN

SUB SHEET NO.

DRAWING NO.

CI-2

PKG.
NO.

SHEET

OF

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 44 of 70
DSC | JUL 88

MAIN
BUILDING
ELLIS
ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

REV. DATE

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN



TITLE OF SHEET

SECOND FLOOR PLAN

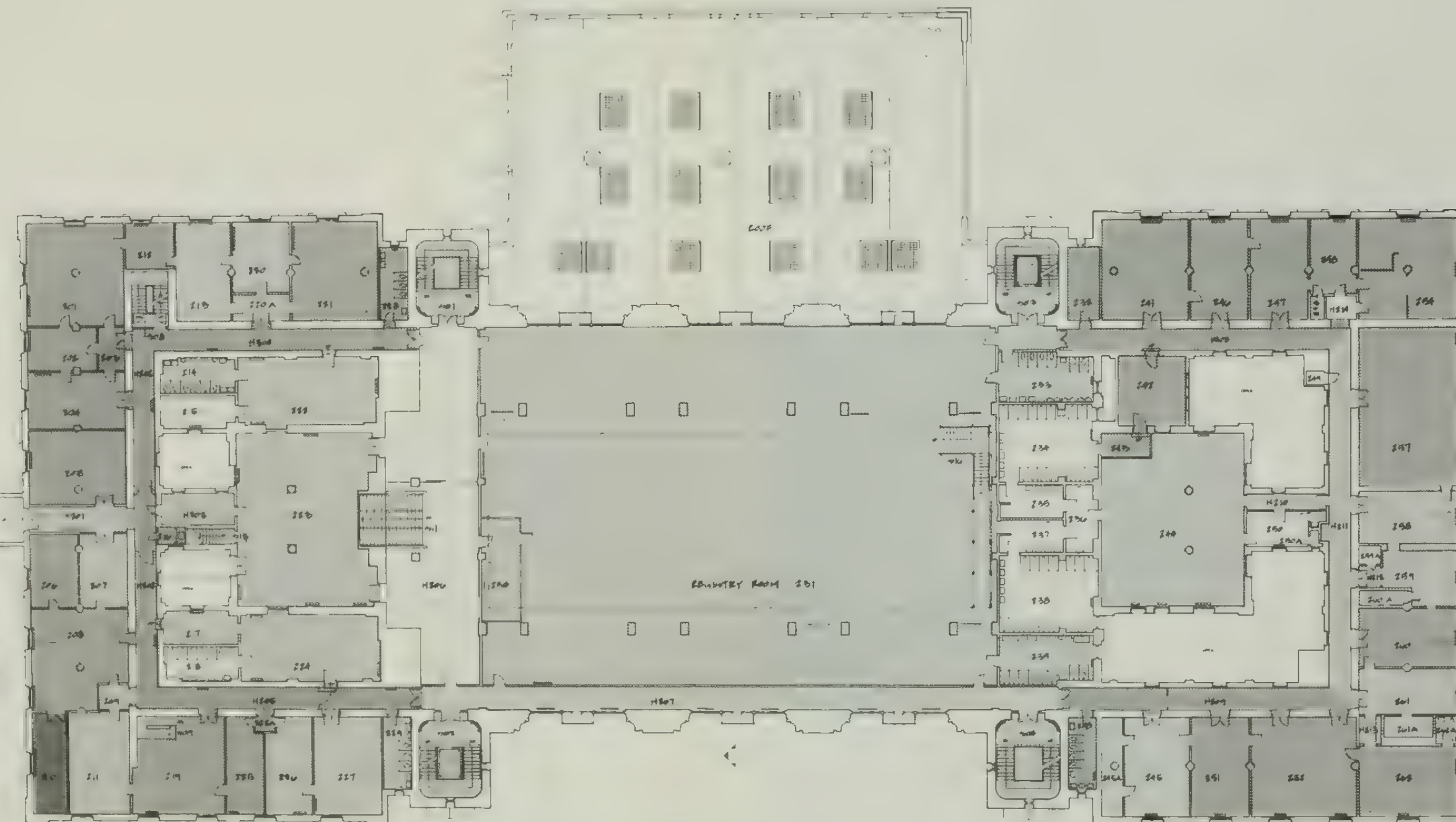
SUB SHEET NO

CI-2

DRAWING NO

PKG NO SHEET

OF



SECOND FLOOR PLAN

EXISTING CONDITION

GOOD

FAIR

POOR

DESTROYED

**NATIONAL PARK SERVICE
DENVER SERVICE CENTER**

ARCHITECTS

**BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD**
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

**MECHANICAL &
ELECTRICAL ENGINEERS**

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 45 of 70 |
| DSC | JUL 88 |

MAIN BUILDING ELLIS ISLAND

**STATUE OF LIBERTY
NATIONAL MONUMENT**
NEW YORK / NEW JERSEY

[illegible]

| | |
|----------|------|
| DESIGNED | DATE |
|----------|------|

| | |
|-----------|-------|
| DESIGNED: | DATE: |
|-----------|-------|

| | |
|--------|--------------|
| DRAWN: | TECH REVIEW: |
|--------|--------------|

KEY PLAN



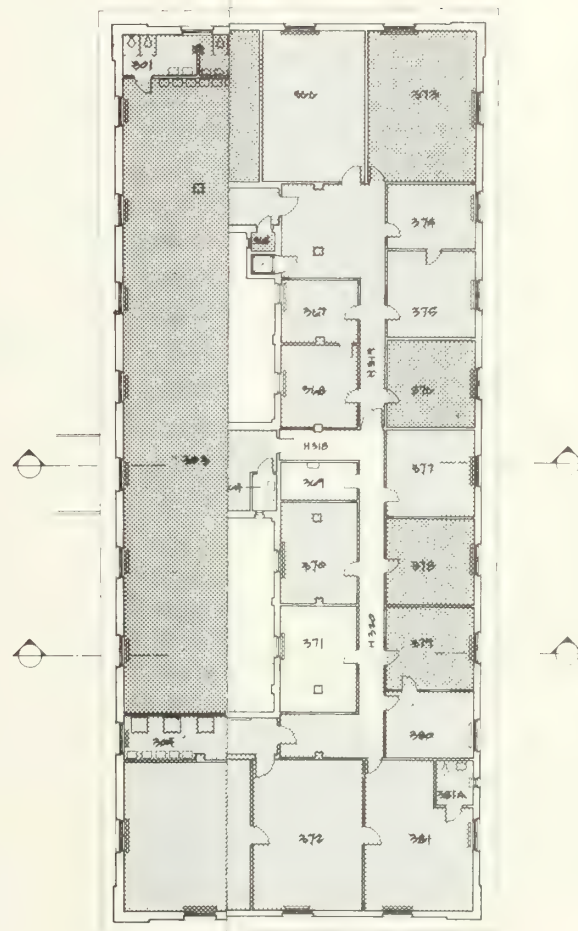
TITLE OF SHEET

THIRD FLOOR PLAN

| | |
|---------------|-------------|
| SUB SHEET NO. | DRAWING NO. |
|---------------|-------------|

CI-3

| | |
|-------------|---|
| PKG. NO. | SHEET |
| _____ | <div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div> |
| _____ | OF _____ |



ING CONDITION

GOOD

FAIR

POOR

DESTROYED

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD80 FIFTH AVENUE
NEW YORK, NY 10114

(212) 741-3980

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

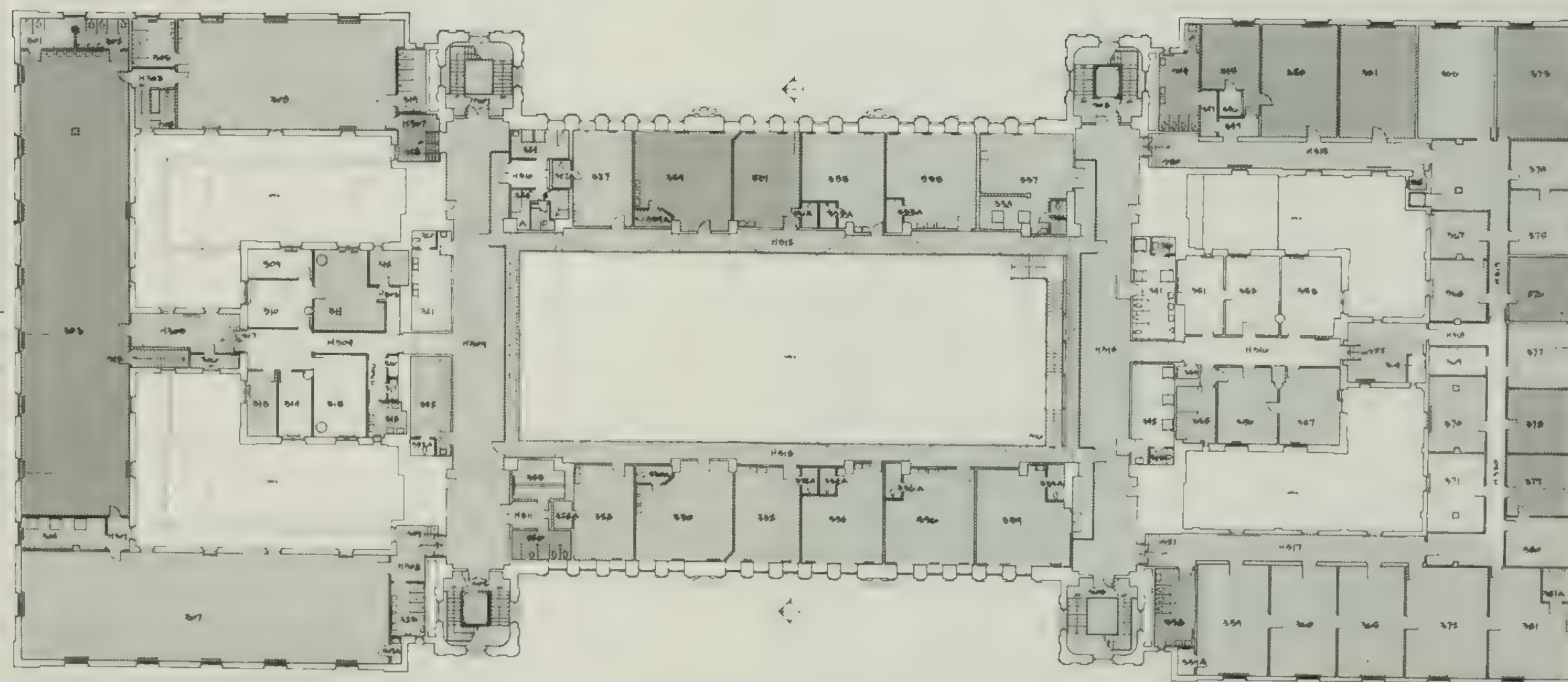
LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 26,002 / 45 of 70

DSC JUL 88

MAIN
BUILDING
ELLIS
ISLANDSTATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

THIRD FLOOR PLAN

EXISTING CONDITION

GOOD
FAIR
POOR
DESTROYED

mk shi REVISIONS date

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN



TITLE OF SHEET

THIRD FLOOR PLAN

SUB SHEET NO DRAWING NO

CI-3

PKG
NO
SHEET
OF

architectural character in the building. Such spaces generally exhibit monumental proportions and their design, materials, and workmanship are of a high quality. They are often unique volumes. An example is the registry room (231) characterized by its two-story elevation, Guastavino vaulting, balconies, and arched windows.

The classification of "some architectural significance" was assigned to spaces which have a moderate amount of architectural character. Volume, size, monumentality, and proportions may distinguish them from the more common and generally smaller spaces in the building. Careful attention was given to the use of materials and the execution of details.

The classification of "minor architectural significance" was assigned to spaces which exhibit few architectural pretensions. Materials and workmanship are standard. Volume and proportions are relatively undistinguished. Rooms are common for their type.

The classification "negligible architectural significance" was assigned to spaces which have no architectural character. They are often very small and of standard materials and design.

The findings of architectural significance have also been plotted on graphically-coded floor plans (exhibit 18-20).



ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD80 FIFTH AVENUE
NEW YORK, NY 10114

(212) 741-3980

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

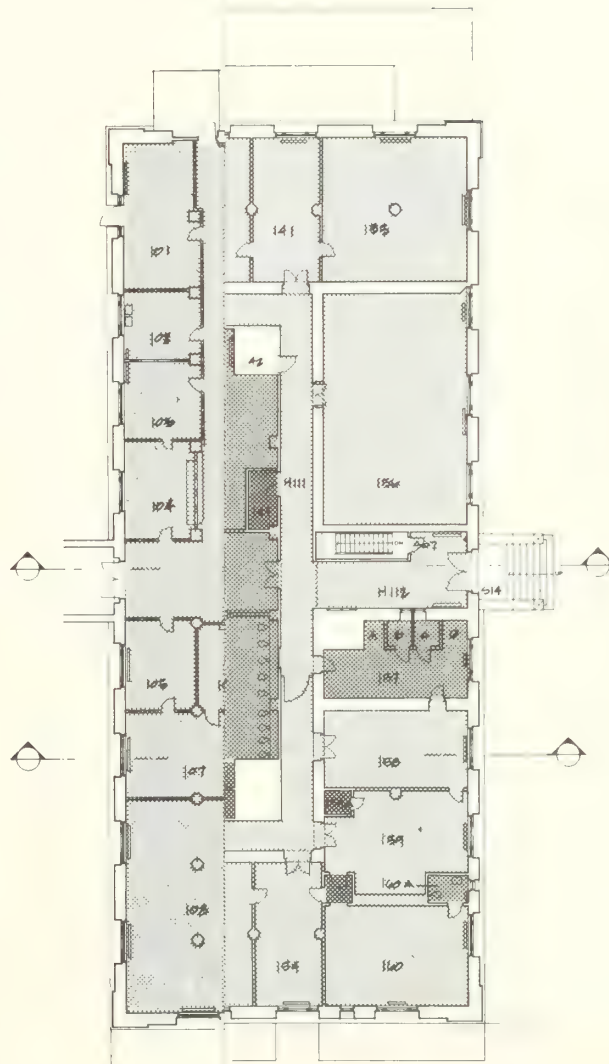
LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 46 of 70

DSC | JUL 88

**MAIN
BUILDING
ELLIS
ISLAND****STATUE OF LIBERTY
NATIONAL MONUMENT**
NEW YORK / NEW JERSEYARCHITECTURAL
FINANCE

MOST

SOME

MINOR

NEGLEGIBLE

mk sht REVISIONS date ini

DESIGNED: DATE:

DRAWN: TECH REVIEW:

KEY PLAN



TITLE OF SHEET

FIRST FLOOR PLAN

SUB SHEET NO.

DRAWING NO.

AS-1

PKG.
NO. SHEET
OF

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3980

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 46 of 70
DSC | JUL 88

MAIN
BUILDING
ELLIS
ISLAND

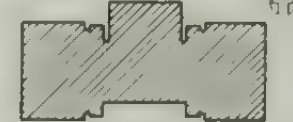
STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk ght REVISIONS date

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN

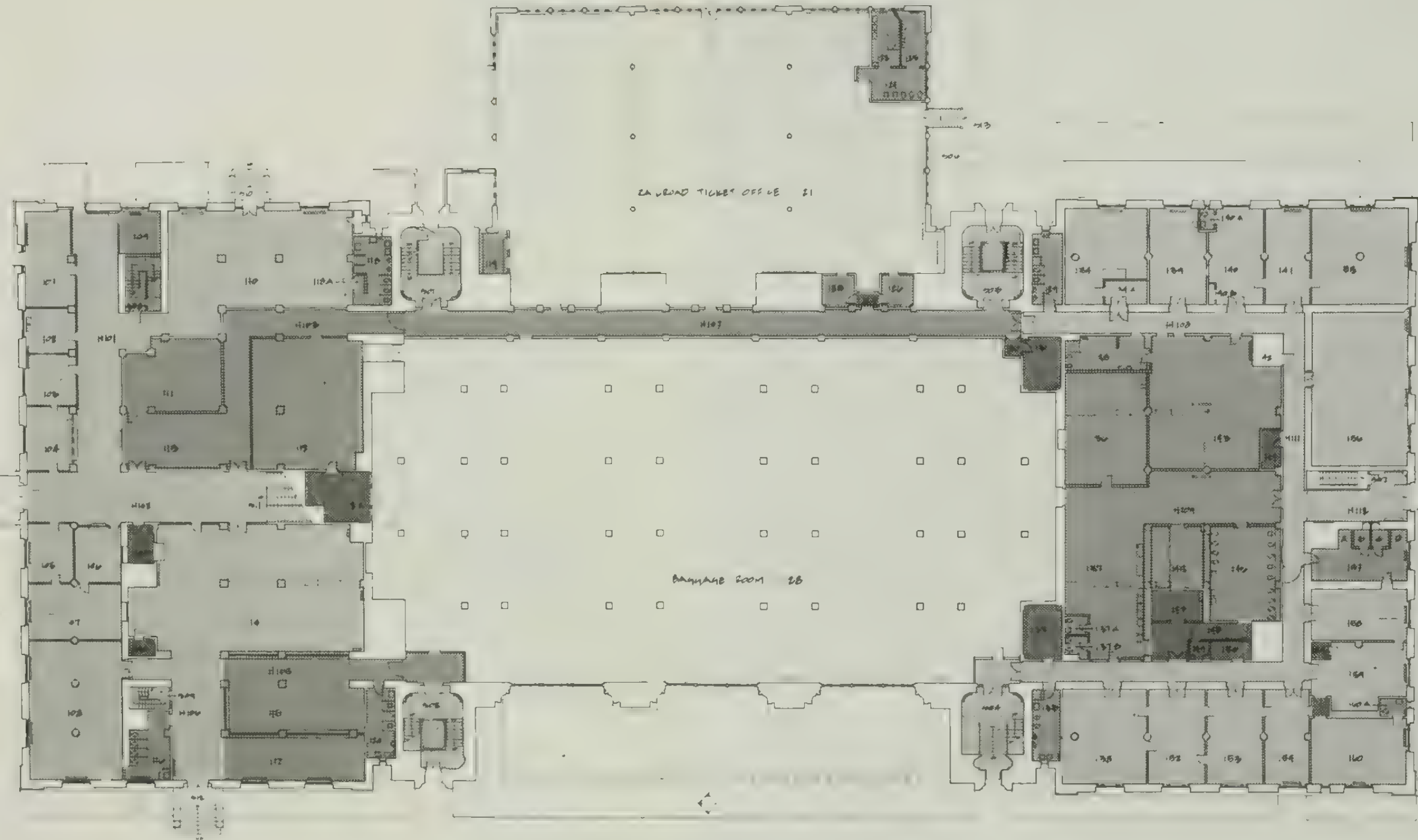


TITLE OF SHEET

FIRST FLOOR PLAN

SUB SHEET NO DRAWING NO

AS-1
PKG NO SHEET
OF



FIRST FLOOR PLAN

ARCHITECTURAL
SIGNIFICANCE

- MOST
- SOME
- MINOR
- NEGLIGIBLE

UNITED STATES DEPARTMENT
OF THE INTERIORNATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

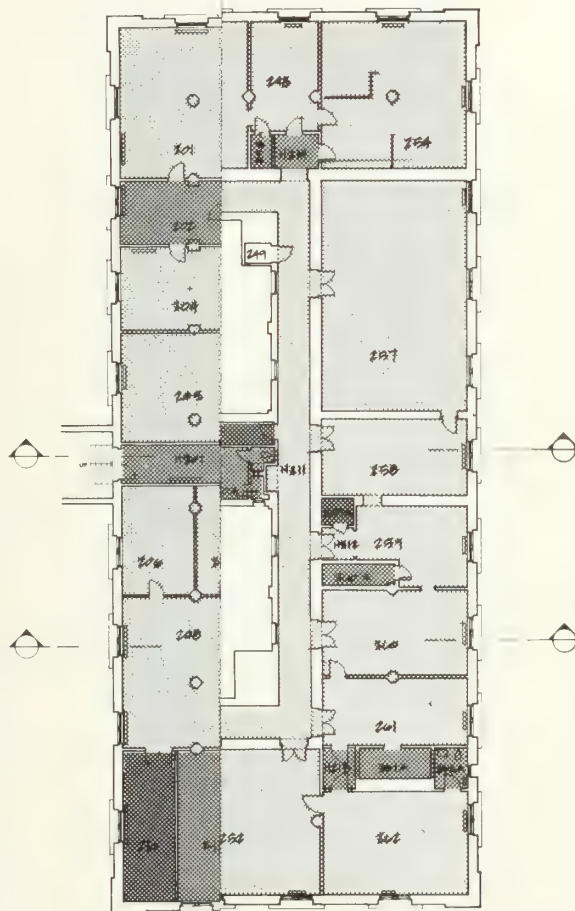
BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 47 of 70
DSC | JUL 88ARCHITECTURAL
SIGNIFICANCE

MOST
 SOME
 MINOR
 NEGLIGIBLE

MAIN
BUILDING
ELLIS
ISLANDSTATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk sh REVISIONS date int

DESIGNED:

DATE:

DRAWN:

TECH REVIEW:

KEY PLAN



TITLE OF SHEET

SECOND FLOOR PLAN

SUB SHEET NO.

DRAWING NO.

AS-2

 PKG.
NO.

SHEET

OF ____

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SELMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 47 of 70
DSC | JUL 88

MAIN BUILDING ELLIS ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk shi REVISIONS date inl

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN



TITLE OF SHEET

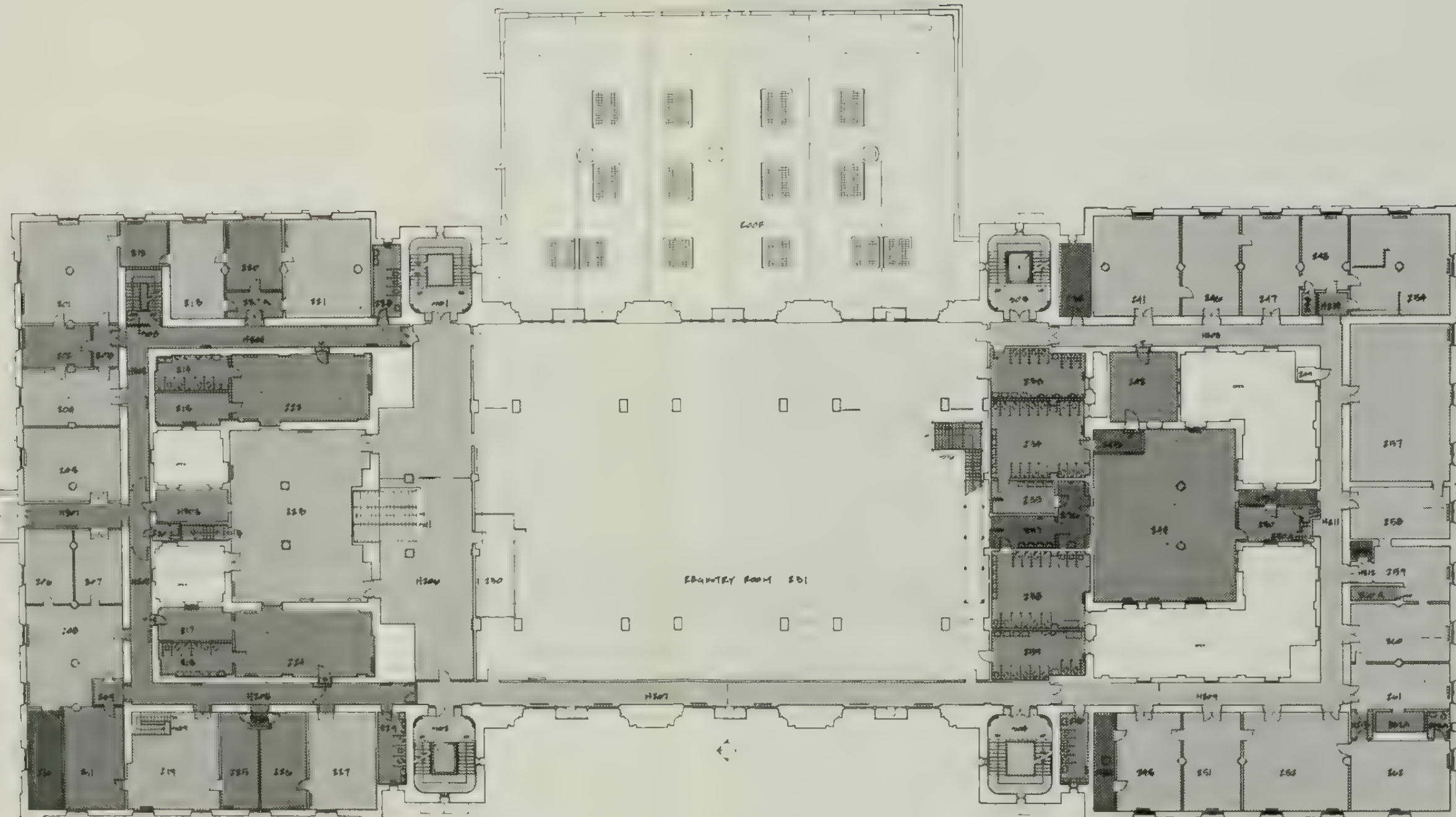
SECOND FLOOR PLAN

SUB SHEET NO

DRAWING NO

AS-2

PKG
NO
SHEET
OF



UNITED STATES DEPARTMENT
OF THE INTERIORNATIONAL PARK SERVICE
DENVER SERVICE CENTERARCHITECTSBEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD80 FIFTH AVENUE
NEW YORK, NY 10114

(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

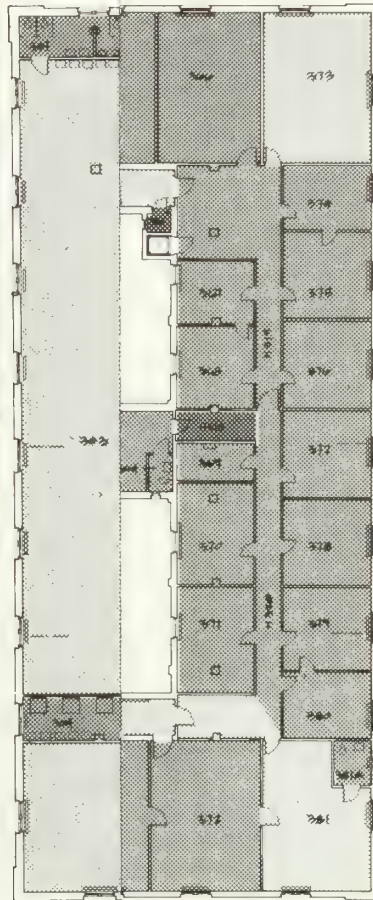
LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 48 of 70

DSC | JUL 88

**MAIN
BUILDING
ELLIS
ISLAND**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**ARCHITECTURAL
SIGNIFICANCE**

MOST

SOME

MINOR

NEGLECTIBLE

mk shl REVISIONS date inl

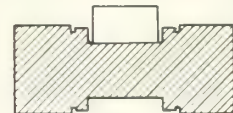
DESIGNED:

DATE:

DRAWN:

TECH REVIEW:

KEY PLAN



TITLE OF SHEET

THIRD FLOOR PLAN

SUB SHEET NO.

DRAWING NO.

AS-3

PKG.
NO.

SHEET

OF

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3060

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 48 of 70
DSC | JUL 88

MAIN BUILDING ELLIS ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk shl REVISIONS date inl

DESIGNED DATE

DRAWN TECH REVIEW

KEY PLAN



TITLE OF SHEET

THIRD FLOOR PLAN

SUB SHEET NO

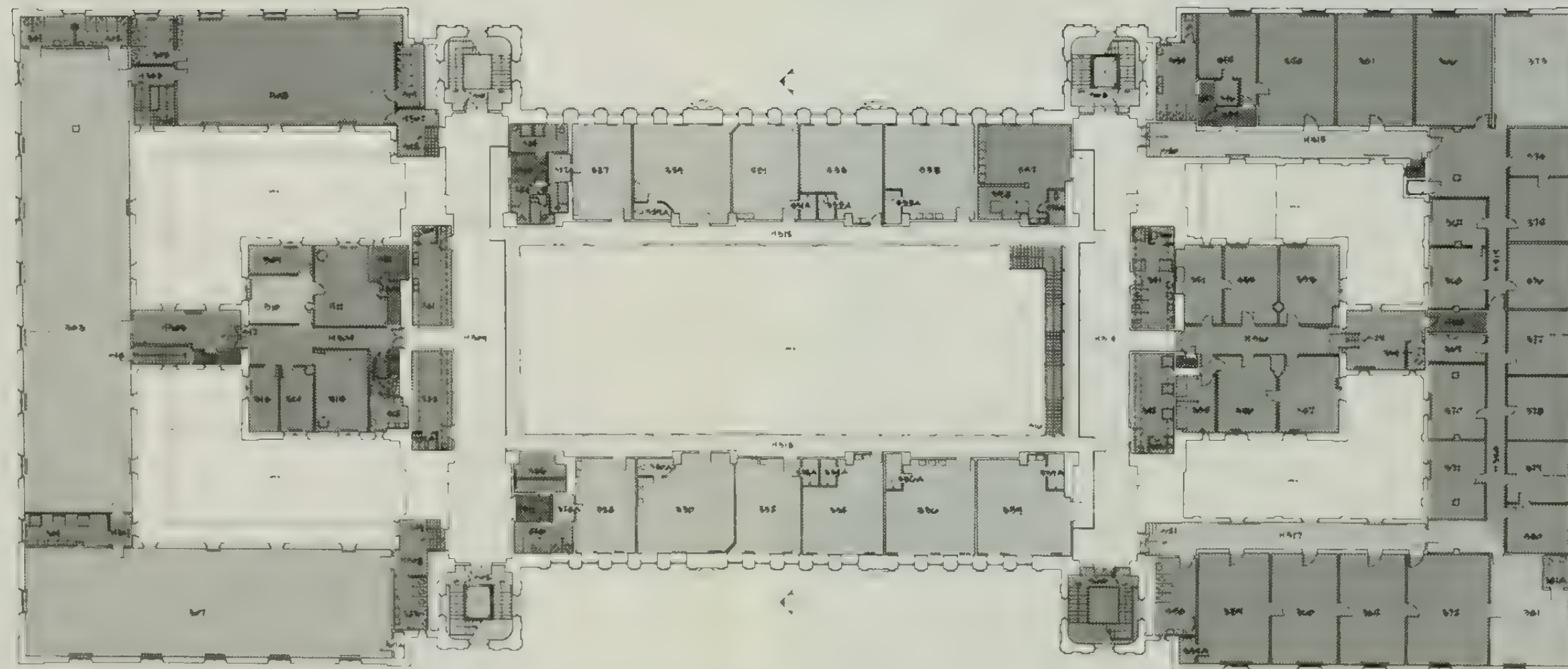
AS-3

DRAWING NO

PKG NO

SHEET

OF



THIRD FLOOR PLAN

ARCHITECTURAL SIGNIFICANCE

MOST

SOME

MINOR

NEGLIGIBLE

4. Graffiti

During the architectural investigation of the main building, immigrant graffiti from various periods was discovered on plaster walls and columns, marble toilet partitions, and galvanized doors. These findings probably represent only a small percentage of the existing graffiti. Preliminary study has identified names, dates, and prose in various languages and script as well as drawings of touching and humorous character. Graffiti in Russian, Greek, Serbo-Croatian, Italian, and Chinese are extant. Dates as early as 1901 are seen on the wall in room 219, while "1911" and "1914" are seen on doors in room 303. Most of the graffiti appears to have been executed in pencil or simply scratched into the unpainted metal doors. Subsequent painting concealed and protected most of this work until after 1954 when the heat was turned off causing paint failure, loss, and exposure of the graffiti below.

To date immigrant graffiti has been found on the second and third floor of the west wing in the following locations:

| | | |
|----------|---|--|
| Room 219 | - | west wall (photos 11-13) |
| 221 | - | east, north and south walls, east column |
| 223 | - | west and north walls, north column |
| H203 | - | window sill |
| 301 | - | door |
| 302 | - | toilet partitions, door |
| 303 | - | doors (photo 14) |
| 308 | - | door (photo 15) |
| 309 | - | door (photo 16) |
| 310 | - | octagonal column (photo 17) |
| 313 | - | east and south walls (photo 18) |



11. Graffiti on west wall, room 219.



12. Graffiti on west wall, room 219.



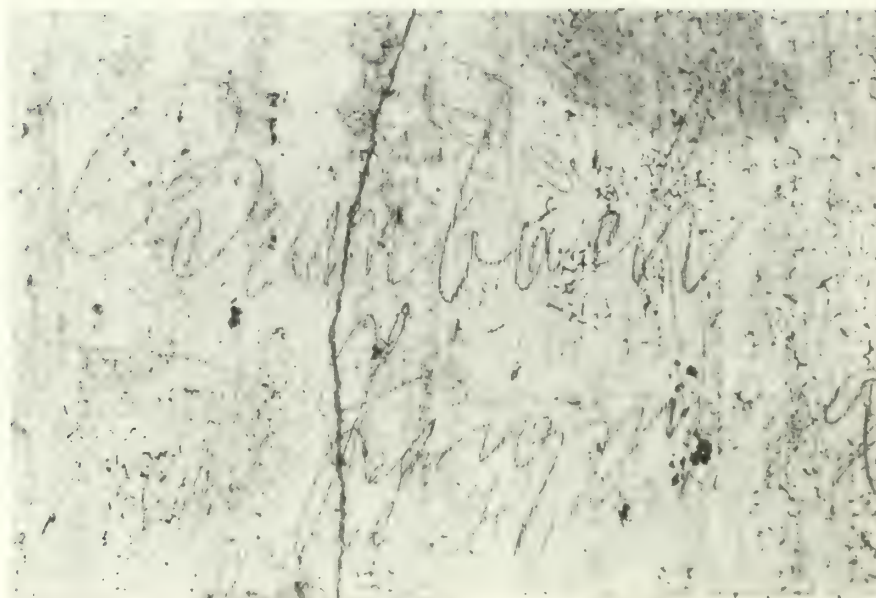
13. Room 219, graffiti on west wall.



14. Room 303, graffiti on door.



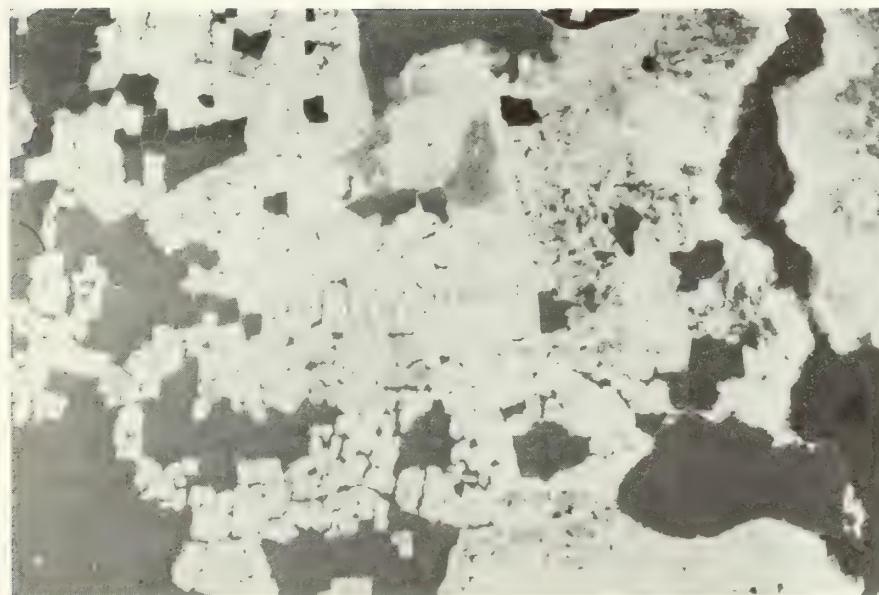
15. Graffiti on door, room 308.



16. Graffiti on door, room 309.

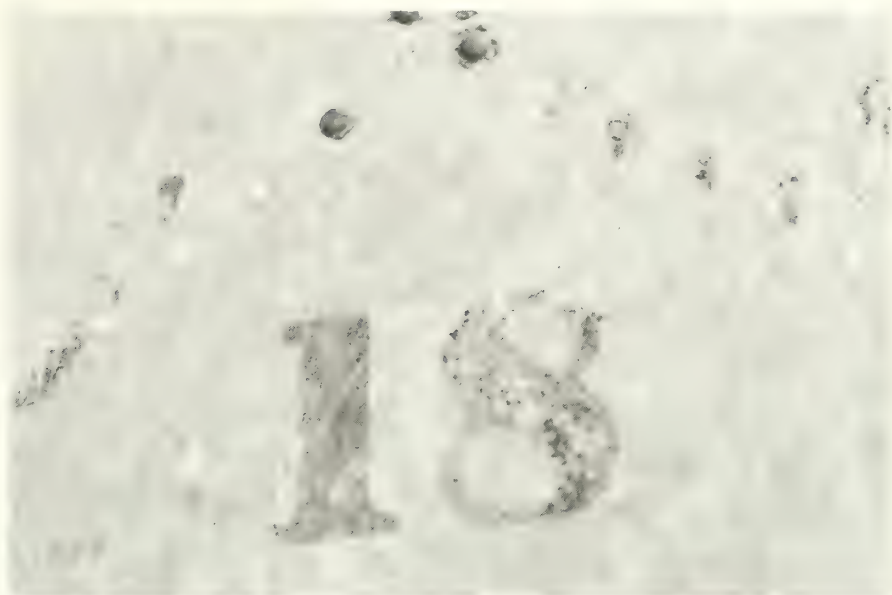


17. Drawing and graffiti on octagonal column, room 310.



18. Graffiti on south wall, room 313.

314 - octagonal column
H301 - door
H303 - door
H305 - north and east walls
H309 - west wall
S08 - door (photo 19)
S15 - door (photo 20)



19. Graffiti on door, stair 08, third floor landing.



20. Graffiti on door, stair 15, room 303.

3. Electrical System

a. History¹

Installation of the electrical system for the main building was completed November 30, 1900 by the New York Electric Equipment Company. Provisions were included for electrical wiring and circuiting for light, power, telephones, call bills, fire alarms, and other signals. The system has undergone numerous repairs and alterations. As a result, a variety of electrical engineering technologies and stylistic changes as represented in fixtures are evident.

The electrical system originally operated on direct current produced by steam turbine generators located in the powerhouse. The power was fed from the generator room of the powerhouse and from there distributed to the various buildings on the island. The original capacity of the generating plant consisted of two 100kw and three 75kw units for a total capacity of 425kw, at a nominal rating of 240 volts DC.

In the early 1900's, the generating plant was upgraded by the replacement of the three 75kw units with two 125kw and one 300kw units, for a total capacity of 750kw at 240 volts DC. At the same time, a new switchboard was installed to handle the existing and the additional capacity.

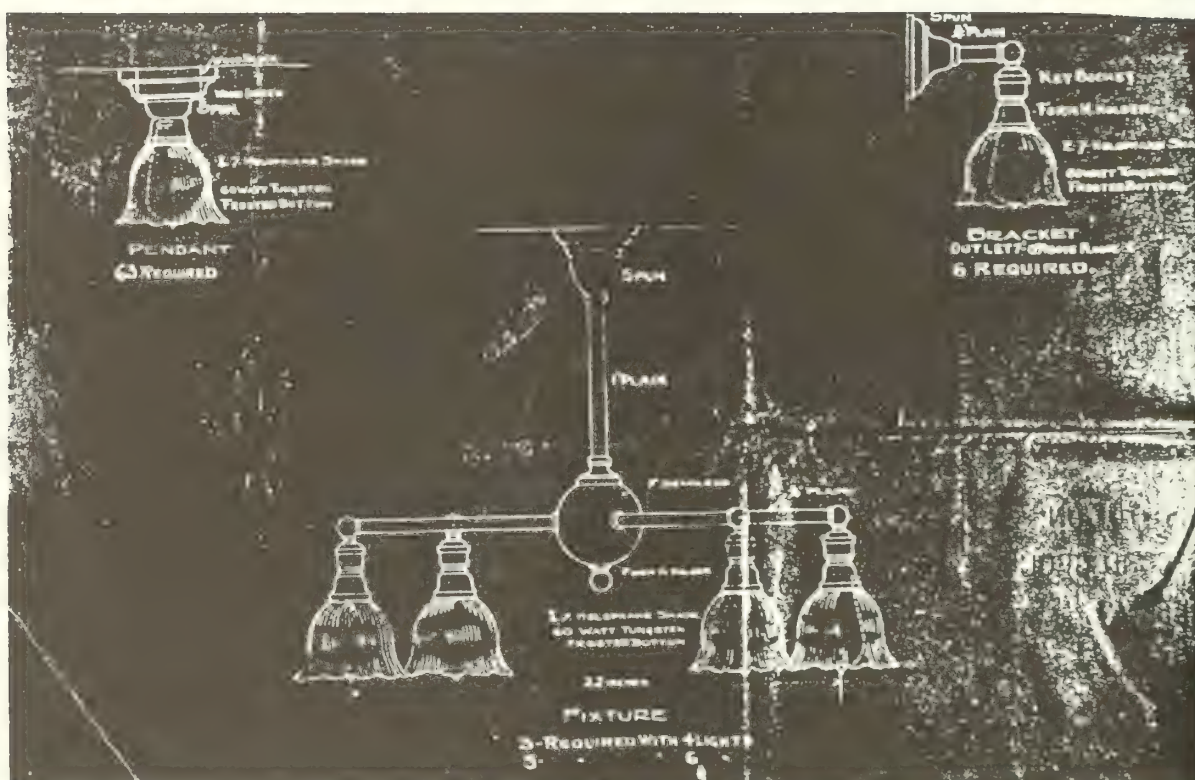
¹This history and description is based in part on Building Conservation Technology/The Ehrenkrantz Group, "Historic Structures Report; Ellis Island", prepared for the National Park Service, 1978, pp. 70-72.

Sometime later, additional motor generators were installed with DC motors driving AC generators. A switchgear was installed to distribute the AC power to selected locations on the island. Total plant capacity was not increased, however, since the new motor-generator sets were merely conversion devices operating from the steam turbine producing DC power.

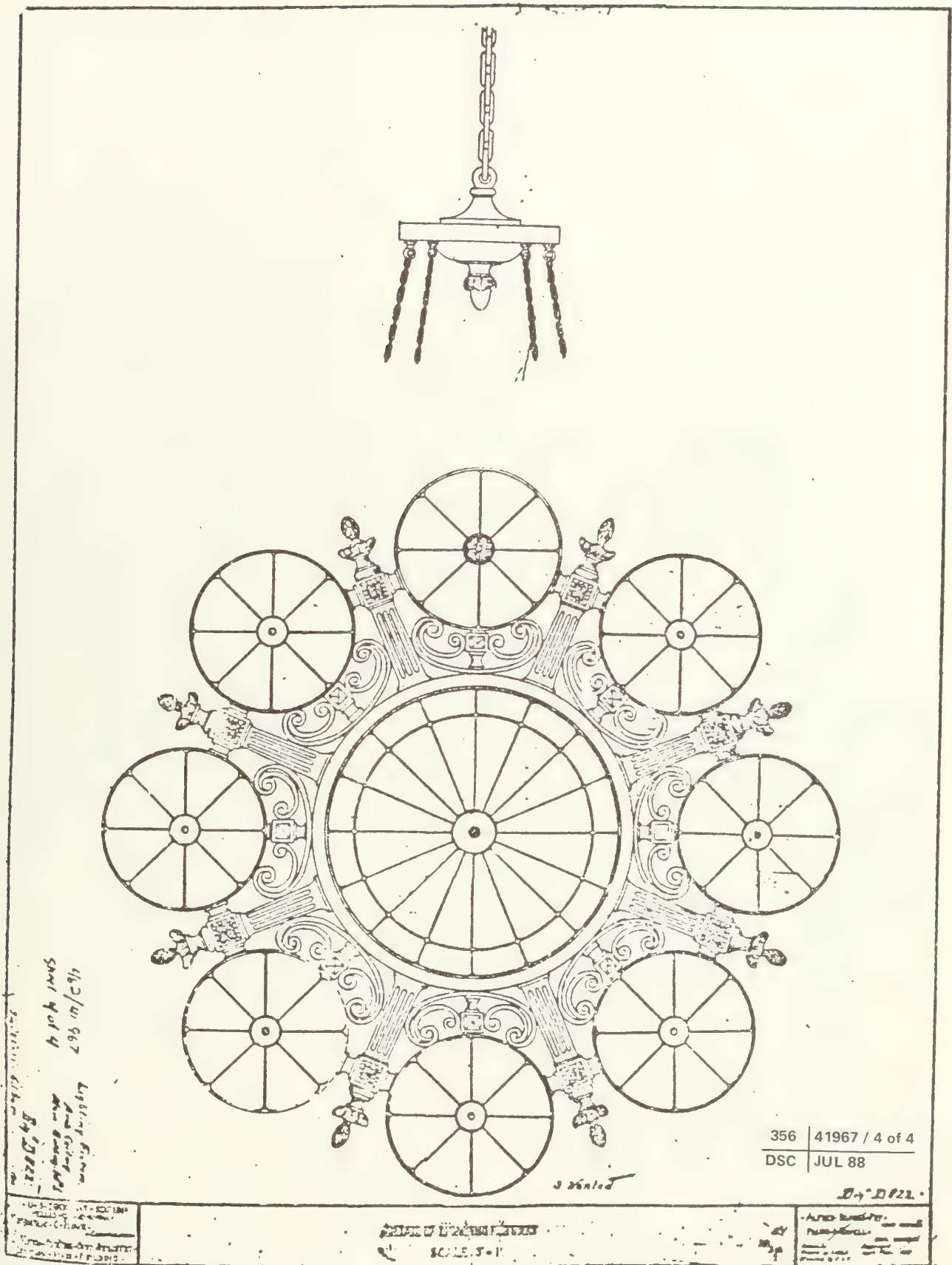
Power distribution was accomplished via copper conductors installed in galvanized or black enamel steel conduits. Power for the main building was run through conduits from the powerhouse through the ceiling of the passageway adjacent to the east side of the bakery and carpentry shop to the northwest corner of the kitchen and laundry building. From this point, the feeders dropped down into the basement of the kitchen and laundry building and into the basement of the main building.

The basement of the main building contained a main distribution panel at the west end and two subdistribution panels, one each at the east and west ends of the building. Power was distributed to the lighting panels on the upper floors via chases in the walls. The main and subdistribution panels contained fused, knife-blade switches as did the original lighting panels in oak cabinets on the upper floors. The lighting panels now contain a combination of fused snap switches and circuit breakers.

Ceiling mounted pendants with glass shades, arm fixtures, and wall mounted brackets were installed in the third floor east wing addition in 1910-1911 (exhibit 1 and photo 1). The entire main building was rewired in 1913. Three new chandeliers were installed in the registry room in 1918 (exhibit 2 and photo 18). New light fixtures were



Fixture designs from drawings dated 1910. Brass arm fixture was used in railroad ticket office prior to 1925.

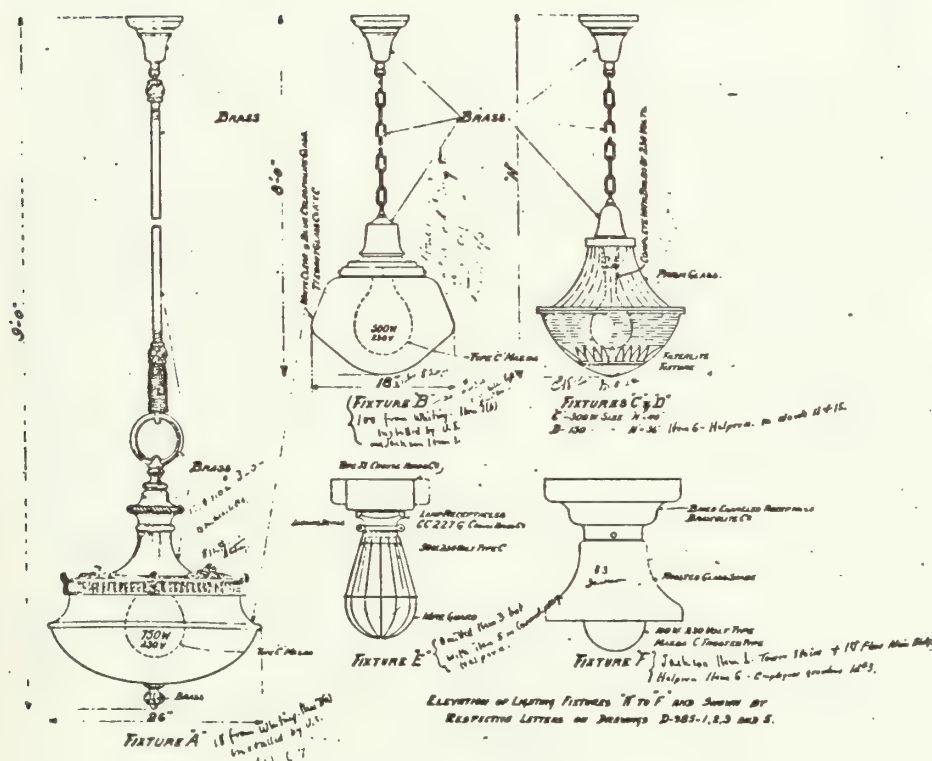


Suspended brass fixture with sectional globes, registry room, 1917, (refurbished 1983).

installed in the balcony dormitories in 1924 (exhibit 3 and 4). In 1932 alterations and additions were made to the lighting system for the new record room and new fixtures were installed on the second and third floors. In addition, new steel diffuser type fixtures were installed on the second floor. The three chandeliers in the registry room were rewired in 1937 and chain supports were added to 158 ceiling fixtures previously hung by electric wire a year earlier. In 1938 new fixtures were installed on the first floor east corner of the main building. Fixtures were to be RLM type with blue daylight globes.

Recent electrical work was undertaken by The Ehrenkrantz Group in 1982-83. Two 75kw diesel generators, new distribution equipment, and some new lighting in the tour areas were installed. A number of existing fixtures and circuits were reused in this temporary lighting effort. This work also involved the provision of trace heating in recently repaired or replaced gutters, rain leaders, and storm water traps. The three chandeliers in the registry room have recently been cleaned and restored. One that was damaged has been reconstructed. The suspension cables for these fixtures have also been replaced.

Despite the new archival evidence which has come to light, it is somewhat difficult to determine the configuration of the various fixture types in the main building. At present, there are numerous DC ceiling mounted pendant fixtures in the building with 230 watt incandescent lamps and translucent glass diffusers, metal shades, or wire covers. Some of these may be original. Costs are given in the original electrical proposal for ceiling mounted fixtures, wall and floor receptacles, and desk outlet



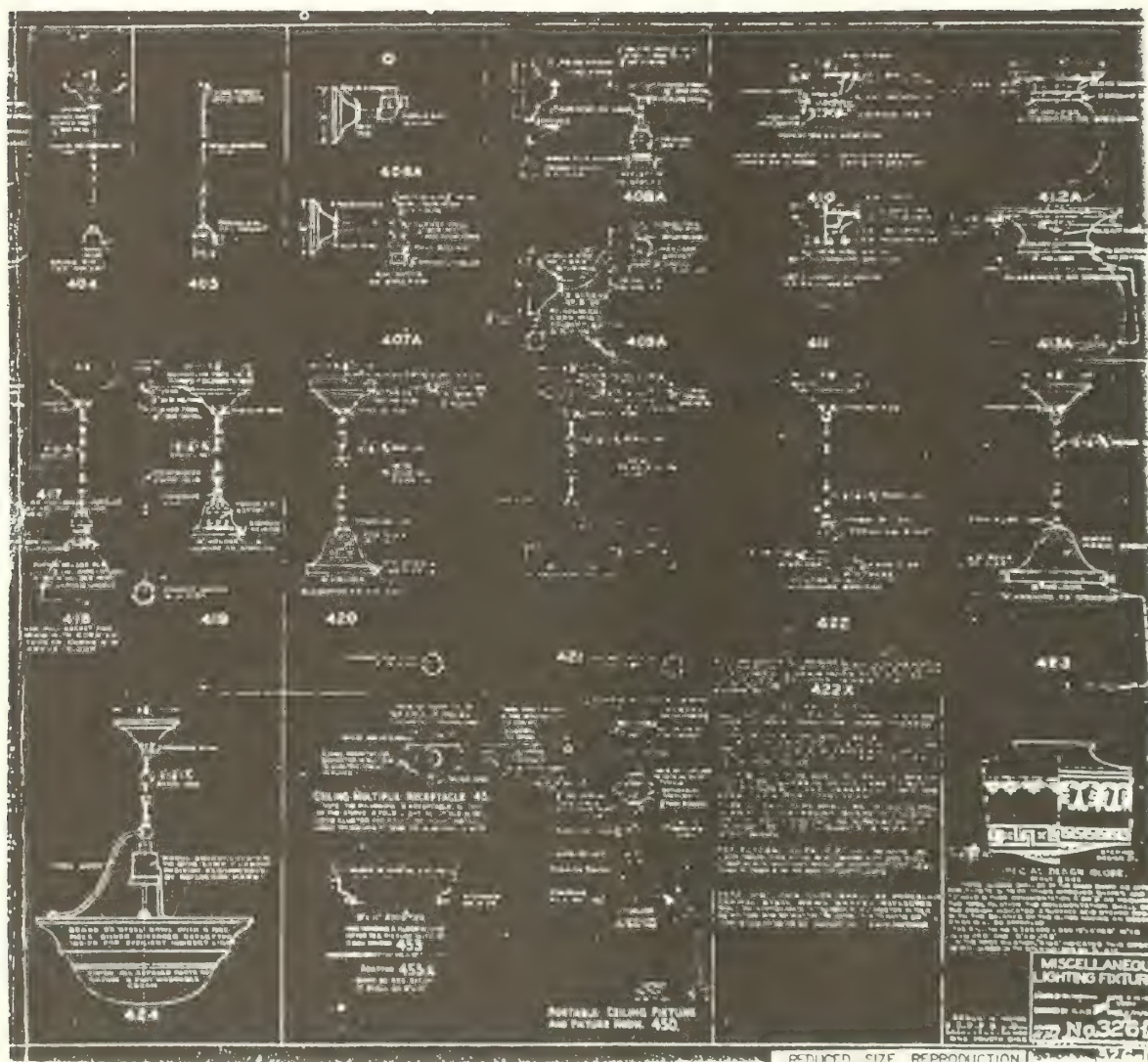
| | |
|-----|----------------|
| 356 | 41971 / 3 of 4 |
| DSC | JUL 88 |

REPAIRS, ALTERATIONS & ADD
FOR
ELECTRIC WIRING & SAFETY PANEL -
ISLANDS No 1 & No 3.

U. S. DEPARTMENT OF LABOR
(Bureau of Labor Service)
CLARK, ILLINOIS
1914-1915-1916-1917-1918-1919-1920-1921-1922-1923-1924-1925-1926-1927-1928-1929-1930-1931-1932-1933-1934-1935-1936-1937-1938-1939-1940-1941-1942-1943-1944-1945-1946-1947-1948-1949-1950-1951-1952-1953-1954-1955-1956-1957-1958-1959-1960-1961-1962-1963-1964-1965-1966-1967-1968-1969-1970-1971-1972-1973-1974-1975-1976-1977-1978-1979-1980-1981-1982-1983-1984-1985-1986-1987-1988-1989-1990-1991-1992-1993-1994-1995-1996-1997-1998-1999-2000-2001-2002-2003-2004-2005-2006-2007-2008-2009-2010-2011-2012-2013-2014-2015-2016-2017-2018-2019-2020-2021-2022-2023-2024-2025-2026-2027-2028-2029-2030-2031-2032-2033-2034-2035-2036-2037-2038-2039-2040-2041-2042-2043-2044-2045-2046-2047-2048-2049-2050-2051-2052-2053-2054-2055-2056-2057-2058-2059-2060-2061-2062-2063-2064-2065-2066-2067-2068-2069-2070-2071-2072-2073-2074-2075-2076-2077-2078-2079-2080-2081-2082-2083-2084-2085-2086-2087-2088-2089-2090-2091-2092-2093-2094-2095-2096-2097-2098-2099-2100-2101-2102-2103-2104-2105-2106-2107-2108-2109-2110-2111-2112-2113-2114-2115-2116-2117-2118-2119-2120-2121-2122-2123-2124-2125-2126-2127-2128-2129-2130-2131-2132-2133-2134-2135-2136-2137-2138-2139-2140-2141-2142-2143-2144-2145-2146-2147-2148-2149-2150-2151-2152-2153-2154-2155-2156-2157-2158-2159-2160-2161-2162-2163-2164-2165-2166-2167-2168-2169-2170-2171-2172-2173-2174-2175-2176-2177-2178-2179-2180-2181-2182-2183-2184-2185-2186-2187-2188-2189-2190-2191-2192-2193-2194-2195-2196-2197-2198-2199-2200-2201-2202-2203-2204-2205-2206-2207-2208-2209-2210-2211-2212-2213-2214-2215-2216-2217-2218-2219-2220-2221-2222-2223-2224-2225-2226-2227-2228-2229-2230-2231-2232-2233-2234-2235-2236-2237-2238-2239-2240-2241-2242-2243-2244-2245-2246-2247-2248-2249-2250-2251-2252-2253-2254-2255-2256-2257-2258-2259-2260-2261-2262-2263-2264-2265-2266-2267-2268-2269-2270-2271-2272-2273-2274-2275-2276-2277-2278-2279-2280-2281-2282-2283-2284-2285-2286-2287-2288-2289-2290-2291-2292-2293-2294-2295-2296-2297-2298-2299-2300-2301-2302-2303-2304-2305-2306-2307-2308-2309-2310-2311-2312-2313-2314-2315-2316-2317-2318-2319-2320-2321-2322-2323-2324-2325-2326-2327-2328-2329-2330-2331-2332-2333-2334-2335-2336-2337-2338-2339-2340-2341-2342-2343-2344-2345-2346-2347-2348-2349-2350-2351-2352-2353-2354-2355-2356-2357-2358-2359-2360-2361-2362-2363-2364-2365-2366-2367-2368-2369-2370-2371-2372-2373-2374-2375-2376-2377-2378-2379-2380-2381-2382-2383-2384-2385-2386-2387-2388-2389-2390-2391-2392-2393-2394-2395-2396-2397-2398-2399-2400-2401-2402-2403-2404-2405-2406-2407-2408-2409-2410-2411-2412-2413-2414-2415-2416-2417-2418-2419-2420-2421-2422-2423-2424-2425-2426-2427-2428-2429-2430-2431-2432-2433-2434-2435-2436-2437-2438-2439-2440-2441-2442-2443-2444-2445-2446-2447-2448-2449-2450-2451-2452-2453-2454-2455-2456-2457-2458-2459-2460-2461-2462-2463-2464-2465-2466-2467-2468-2469-2470-2471-2472-2473-2474-2475-2476-2477-2478-2479-2480-2481-2482-2483-2484-2485-2486-2487-2488-2489-2490-2491-2492-2493-2494-2495-2496-2497-2498-2499-2500-2501-2502-2503-2504-2505-2506-2507-2508-2509-2510-2511-2512-2513-2514-2515-2516-2517-2518-2519-2520-2521-2522-2523-2524-2525-2526-2527-2528-2529-2530-2531-2532-2533-2534-2535-2536-2537-2538-2539-2540-2541-2542-2543-2544-2545-2546-2547-2548-2549-2550-2551-2552-2553-2554-2555-2556-2557-2558-2559-2560-2561-2562-2563-2564-2565-2566-2567-2568-2569-2570-2571-2572-2573-2574-2575-2576-2577-2578-2579-2580-2581-2582-2583-2584-2585-2586-2587-2588-2589-2590-2591-2592-2593-2594-2595-2596-2597-2598-2599-2600-2601-2602-2603-2604-2605-2606-2607-2608-2609-2610-2611-2612-2613-2614-2615-2616-2617-2618-2619-2620-2621-2622-2623-2624-2625-2626-2627-2628-2629-2630-2631-2632-2633-2634-2635-2636-2637-2638-2639-2640-2641-2642-2643-2644-2645-2646-2647-2648-2649-2650-2651-2652-2653-2654-2655-2656-2657-2658-2659-2660-2661-2662-2663-2664-2665-2666-2667-2668-2669-2670-2671-2672-2673-2674-2675-2676-2677-2678-2679-2680-2681-2682-2683-2684-2685-2686-2687-2688-2689-2690-2691-2692-2693-2694-2695-2696-2697-2698-2699-2700-2701-2702-2703-2704-2705-2706-2707-2708-2709-2710-2711-2712-2713-2714-2715-2716-2717-2718-2719-2720-2721-2722-2723-2724-2725-2726-2

TYPE OF RECORD
 Name of Record
 Location of G.L.F. Unit
 appropriate design, if any

Fixture designs from 1924 drawings, types 'B', 'E', and 'F' installed in main building. Others used at island 3.



Fixture designs from drawings dated 1934.

| | |
|-----|-----------------|
| 356 | 43956 / 4 of 13 |
| DSC | JUL 88 |

circuit connections. This would seem to indicate that lighting consisted mainly of ceiling mounted fixtures with some supplemental desks and floor lamps. Drawings of the registry room chandeliers, dated 1917, indicate that the existing fixtures are original (exhibit 2).

In addition to the interior lighting fixtures, scroll shaped wrought iron fixtures were mounted over the exterior entrance doors of the building. Historic photographs indicate that these fixtures were installed sometime between 1909 and 1912.

Various types of lighting fixtures used in the main building are described in photos 1 through 18.

b. Existing Conditions²

The original DC generators have been vandalized to the point where their reuse is practically impossible. All copper components have been removed and steel parts are badly rusted. Dust and debris have been allowed to penetrate all parts of the generators and their windings have been exposed to extremes of temperature and moisture for over 20 years.

At present, AC power is provided by means of two 75kw AC diesel generators located in the northeast corner of the powerhouse. From those generators power is distributed

²This section is based in part on Building Conservation Technology/The Ehrenkrantz Group and Syska & Hennessy, "The Mechanical and Electrical Rehabilitation of the Main Building; Ellis Island", prepared for the National Park Service, 1978.

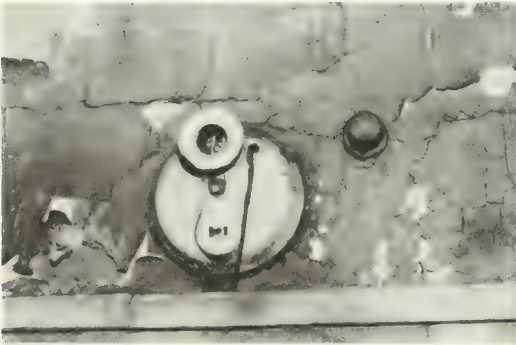
Lighting Fixtures



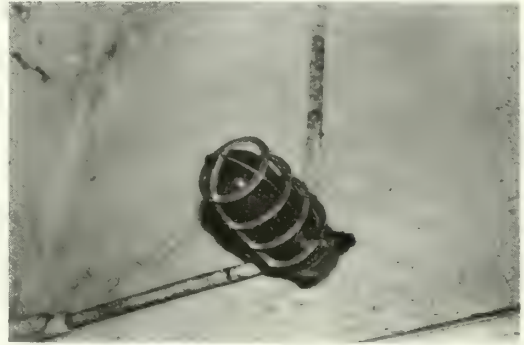
1. Ornamental wall mounted sconce, ca. 1917, room 303.



2. Shaded wall sconce, ca. 1911, room 307.



3. Ceramic wall sconce receptacle with pull chain and plug outlet, ca. 1930, room 160A.



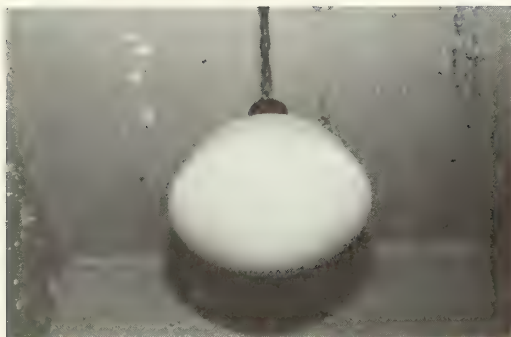
4. 'Vaportight' fixture with cast metal guard, ca. 1935.



5. Metal fixture receptacle, 1911, room 303.



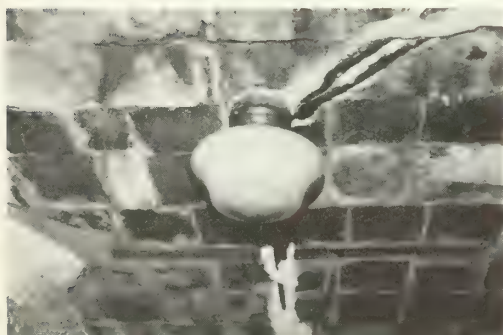
6. Metal receptacle with chain suspended shaded fixture base, 1924, room 307.



7. Suspended globe, Tiebout Glass Co., N.Y.C., 1924, third floor



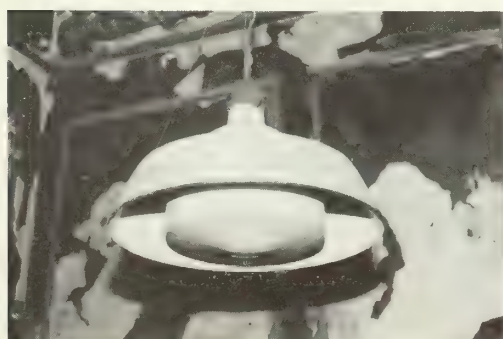
8. Suspended globe with pull chain, ca. 1945, room 224.



9. Brass receptacle with direct globe mount, 1924, room H202.



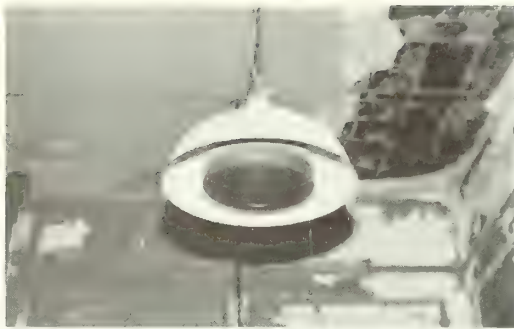
10. Shade and globe assembly at older pull chain receptacle, ca. 1915-1930, room 226.



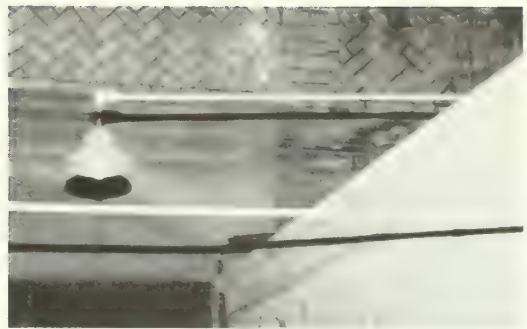
11. Suspended globe and shade assembly, ca. 1934, room 201.



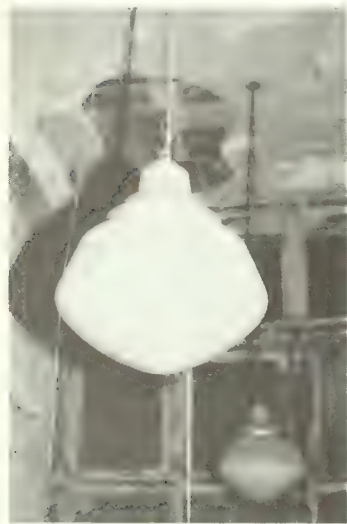
12. Suspended globe and shade assembly, ca. 1935, room 220.



13. Suspended shade with blue tinted globe, 1938, room 205.



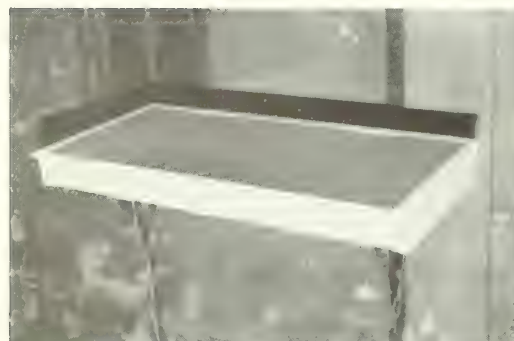
14. 1934 receptacle cantilevered by conduit beyond partition, ca. 1935, third floor balcony.



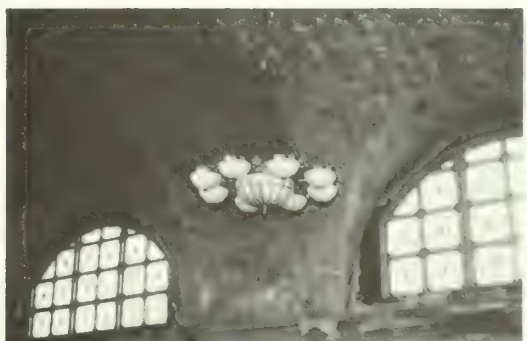
15. Suspended globe and receptacle with chain pull, 1924, room 207.



16. Rigid suspended fixture with upright shade, ca. 1940, room 380.



17. Suspended fluorescent fixture with plastic diffuser, 1982, room 152.



18. Suspended brass fixture with sectional globes, 1917, (refurbished in 1984), registry room.

to the ferry building toilets, sewage treatment facility, kitchen and laundry building, and main building through a system of EMT conduit and multiconductor cable. The existing generators are in need of repair or replacement. The recently installed distribution by conduit and cable has been strung in a haphazard manner throughout the area, sometimes concealed and sometimes exposed. Branch circuits have been connected in lighting panels and junction boxes to activate minimum lighting in certain areas.

The feeder cables leaving the powerhouse and serving the buildings, together with most of the feeders and subfeeders in the main building, have been removed from the conduits. The conduits are badly rusted both inside and out. Pull boxes in many cases are also badly rusted. Where feeder cables remain, the insulation is extremely brittle.

Main and subdistribution panelboards have been stripped of the copper bus and switches for the most part, nonmetallic parts have been damaged, and backboxes are rusted. Lighting panels in the basement are badly rusted and the switching devices are inoperable. Lighting panels on the upper floors are also inoperative.

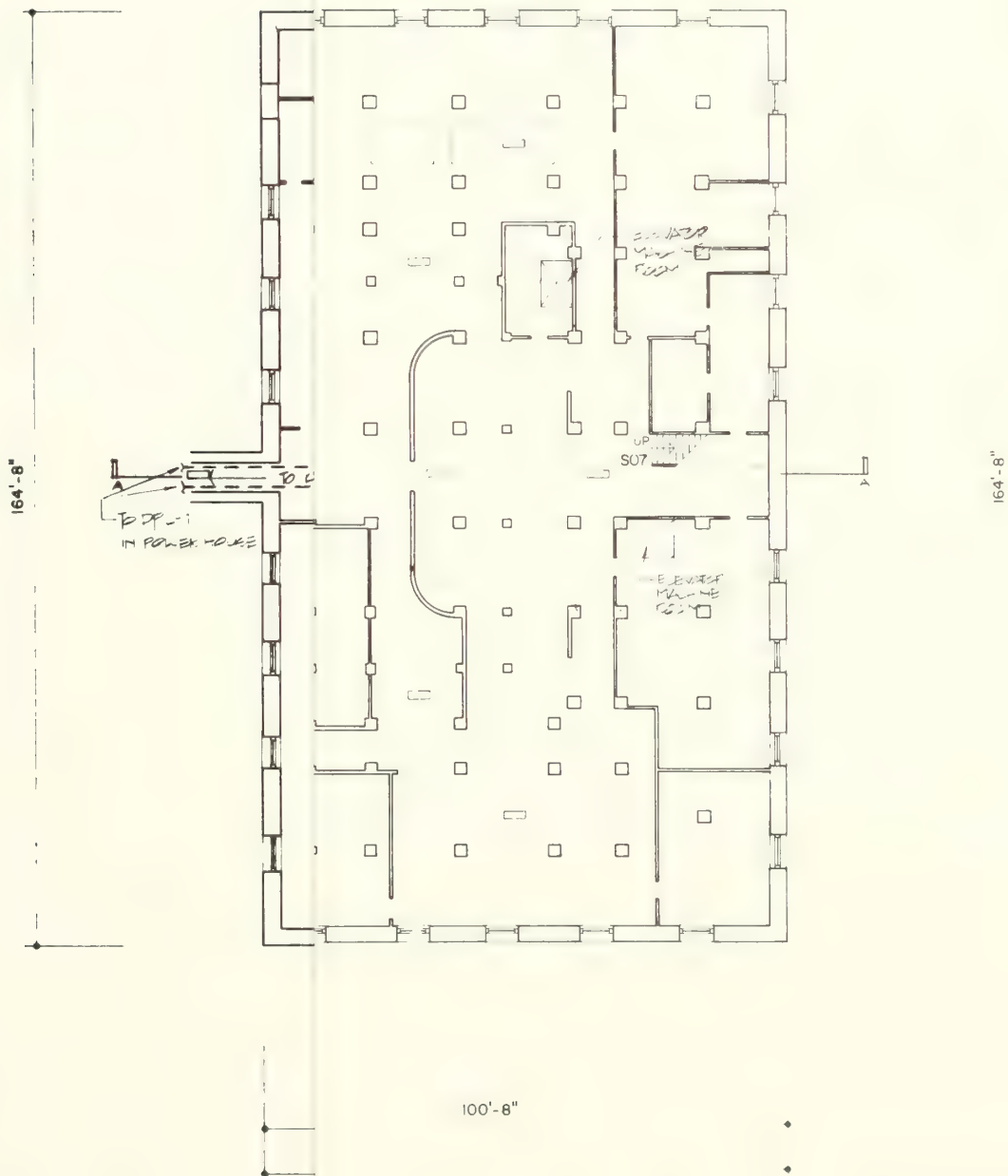
Most lighting fixtures appear to be reusable, if properly rewired. A number of glass diffusers have been broken. The chandeliers in the registry room have been restored and appear to be in good operable condition. The registry room is ringed with a continuous row of lamp sockets some of which are corroded. This lighting system could probably be rehabilitated with considerable time and effort.

In November of 1983, Syska & Hennessy documented all existing electrical fixtures and equipment in the main

building. The following features are noted on exhibits E-1 through E-4:

- Fixture junction box with fixture either completely or partially missing
- Fixture intact with glass diffuser missing
- Porcelain lampholder
- Recessed fixture
- Fixture completely intact
- Wall-mounted fixture
- Old panelboard inactive
- New panelboard active
- Motor
- Exit light in operation
- Existing fixture in operation
- Existing receptacle in operation
- Fluorescent fixture in operation
- Existing transformer in operation
- Exposed conduit

- ⊗ FIXTURE JUNCTION BOX W/FIXTURE EITHER COMPLETELY OR PARTIALLY MISSING
- ND
⊗ FIXTURE INTACT W/GLASS DIFFUSER MISSING
- ⊗ FOR MAIN LAMPHOLDER
- R
⊗ RECESSIBLE FIXTURE
- ⊗ FIXTURE COMPLETELY INTACT
- ⊗ WALL-MOUNTED FIXTURE
- ⊗ OLD PANELBOARD INACTIVE
- NEW PANELBOARD ACTIVE
- ⊗ MOTOR
- ⊗ EXIT LIGHT IN OPERATION
- EXISTING FIXTURE IN OPERATION
- ⊗ EXISTING RECEPTACLE IN OPERATION
- ⊗ FLUORESCENT FIXTURE IN OPERATION
- ⊗ EXISTING TRANSFORMER IN OPERATION



ELLIS ISLAND REFERENCE
MAIN BUILDING

EXISTING CONDITIONS

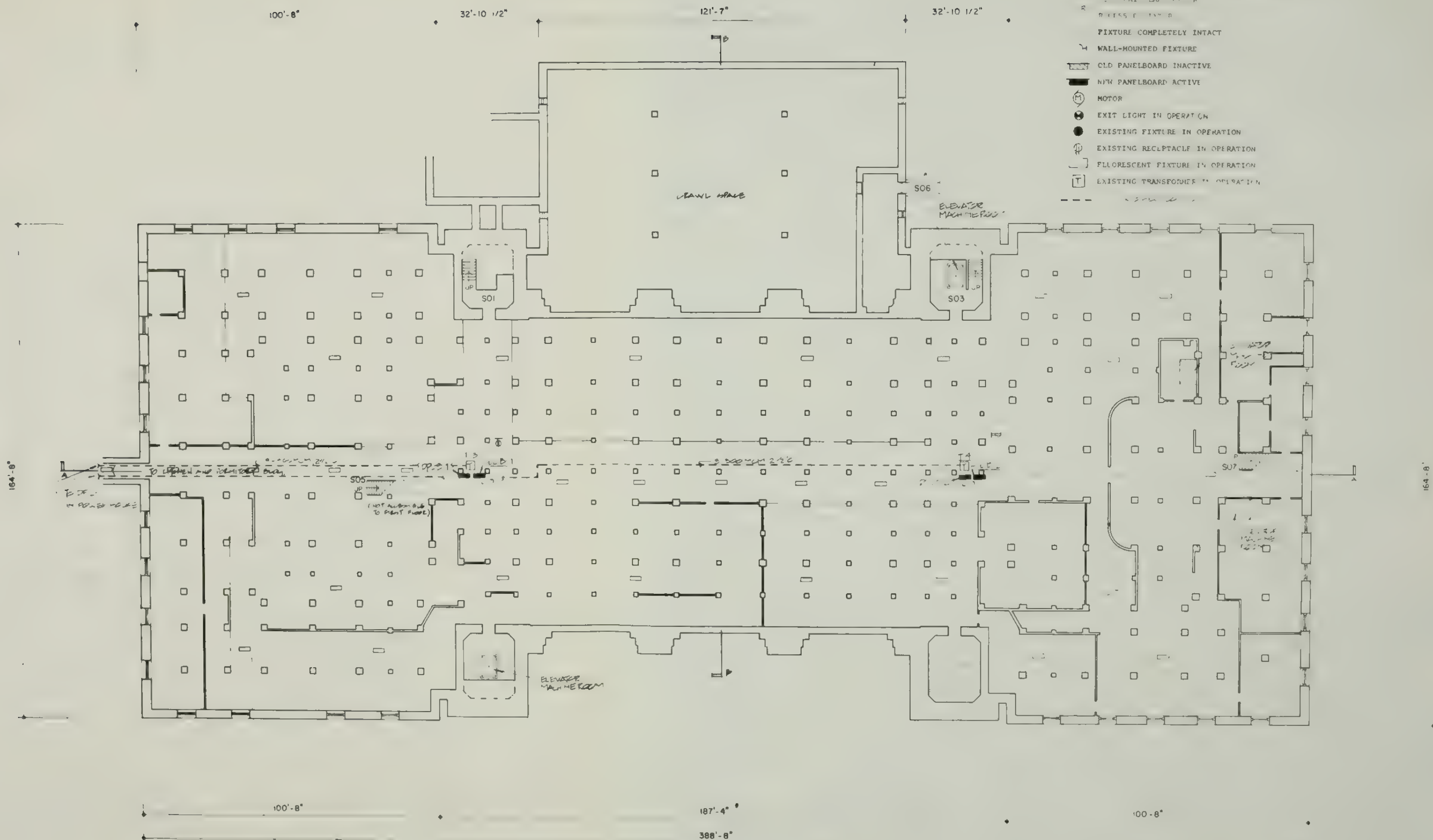
DATE: 11/17/77 11/16/67

DWG.

E-1

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

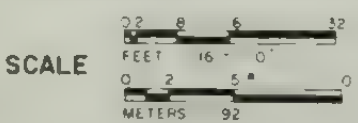
11 WEST 42ND STREET
NEW YORK, N.Y. 10036



ELLIS ISLAND NATIONAL MONUMENT MAIN BUILDING NEW YORK / NEW JERSEY

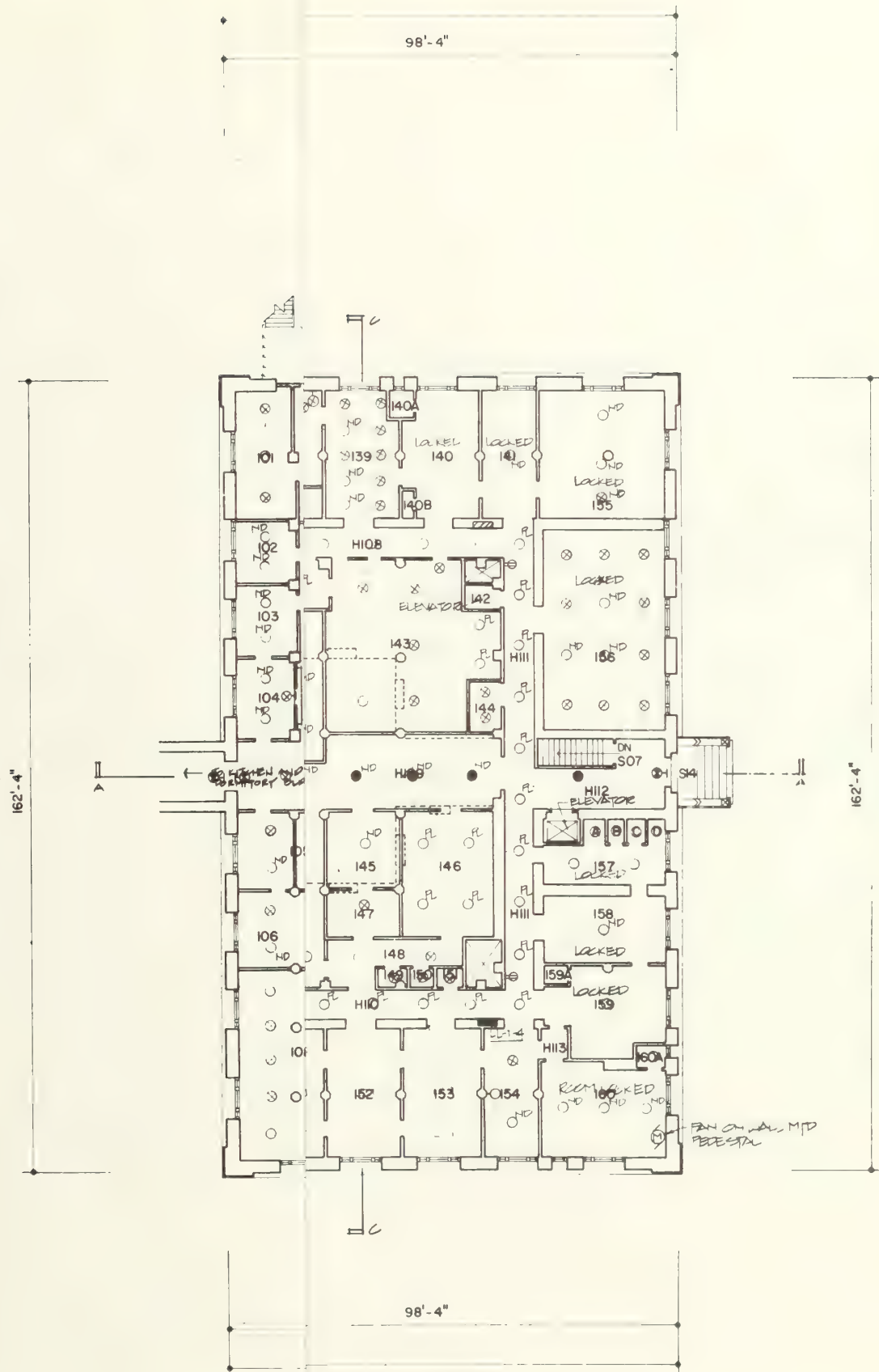
ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.
356 | 26,002 / 49 of 70
DSC | JUL 88

BASEMENT PLAN



EXISTING CONDITIONS

D.T. 1/1/88
SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS
11 WEST 42ND STREET
DW. E-1



ELLIS ISLAND
MAIN BUILDING

EXISTING CONDITIONS

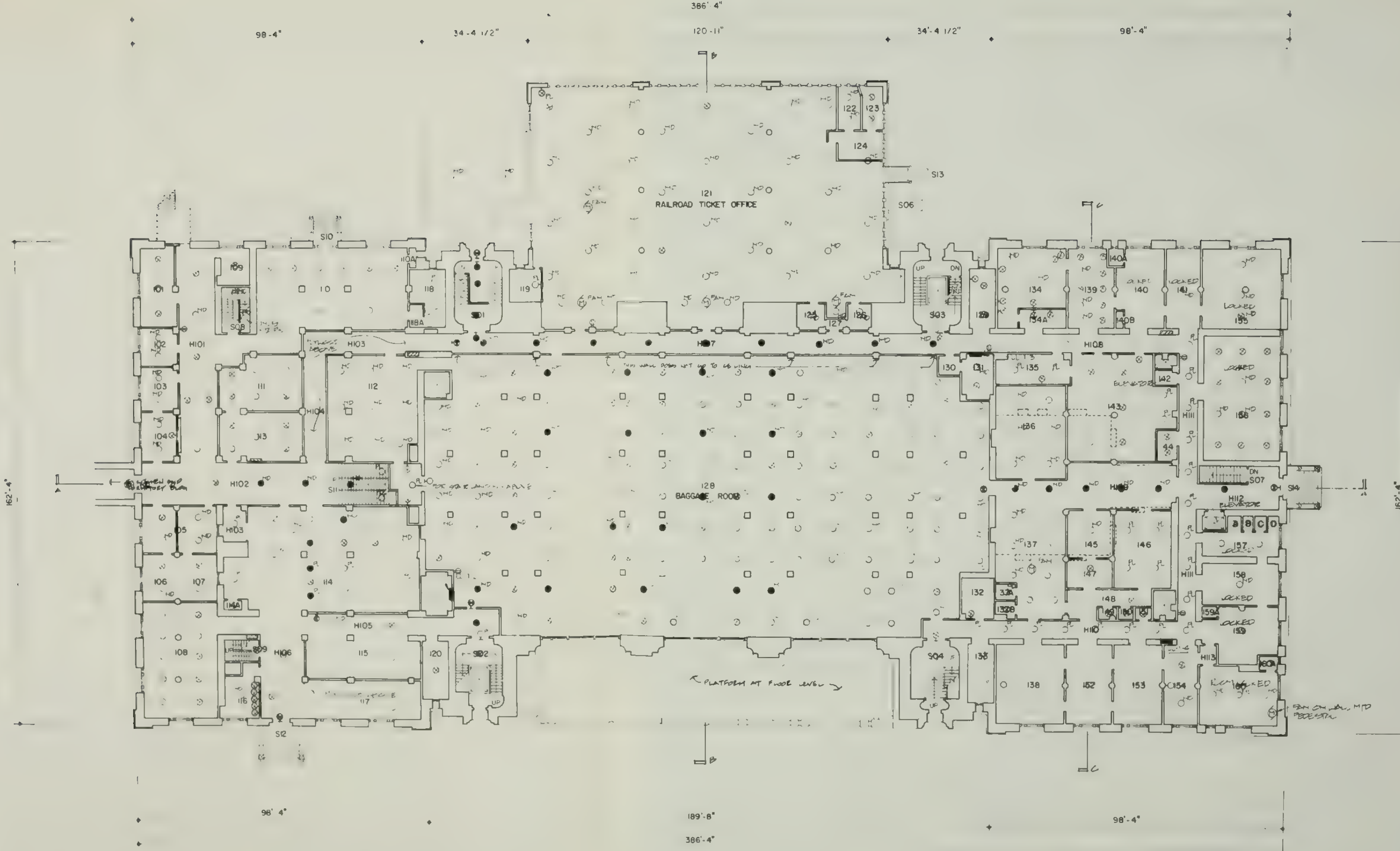
DATE: 11/1/83 11/16/83

DWG.

E-2

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036



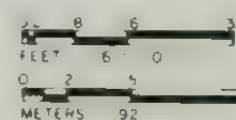
ELLIS ISLAND NATIONAL MONUMENT MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

FIRST FLOOR PLAN

SCALE

356 26,002 / 50 of 70
DSC JUL 88



REFERENCE

EXISTING CONDITIONS

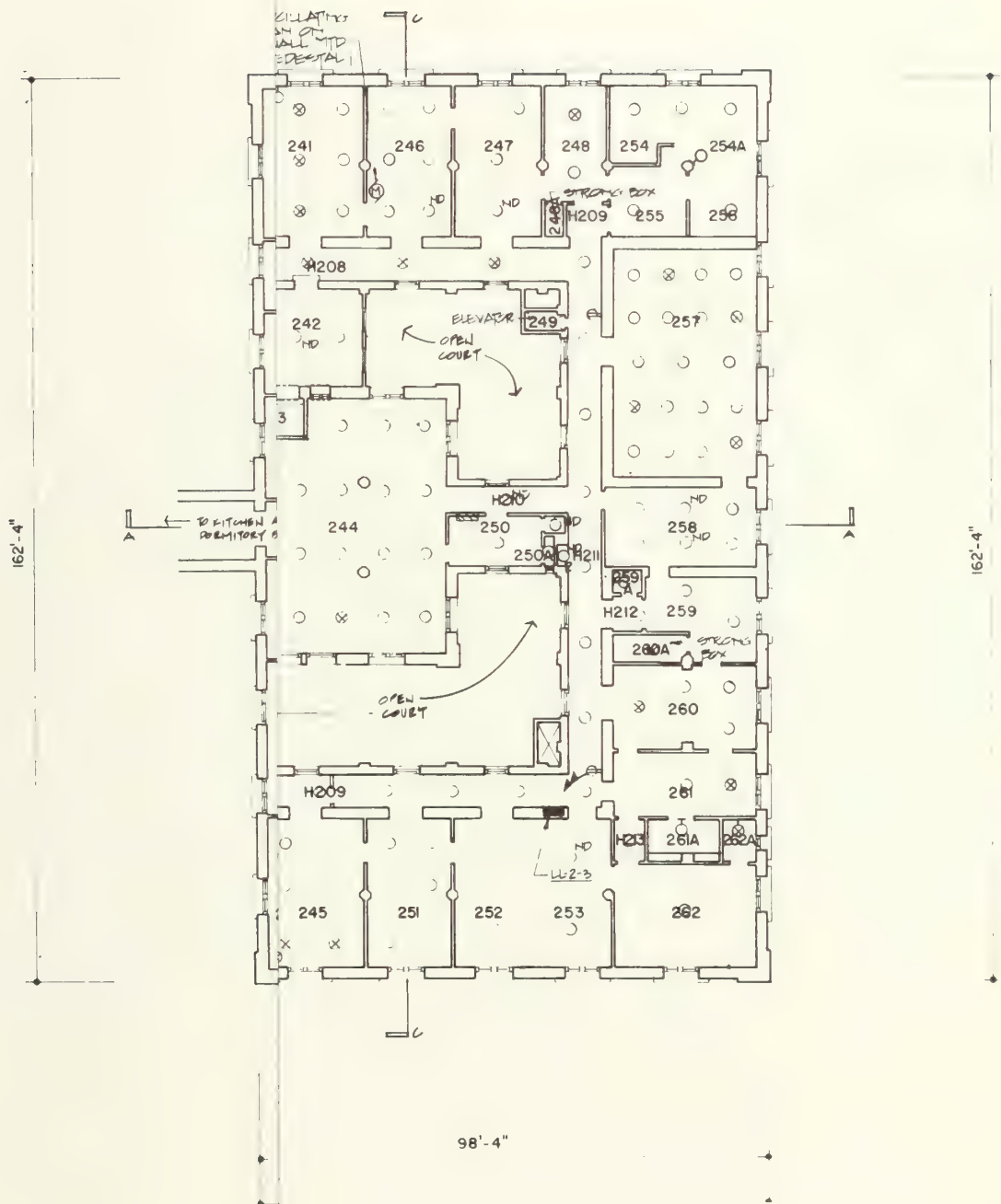
DATE 11/83 1/83

DWG.

E-2

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036



ELLIS ISL REFERENCE
MAIN BUILD

EXISTING CONDITIONS

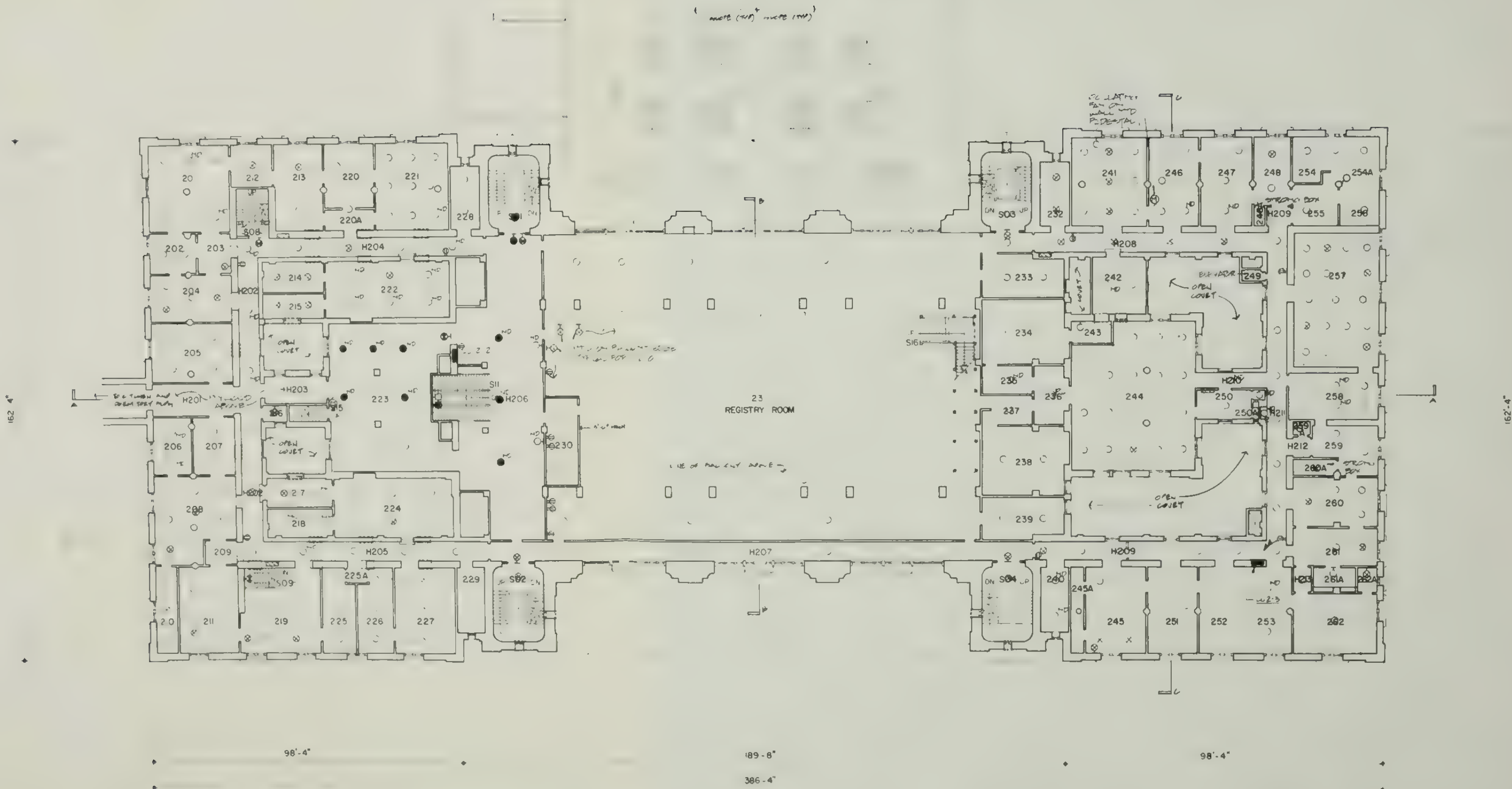
DATE: 11/1/93 11/16/93

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG.

E-3

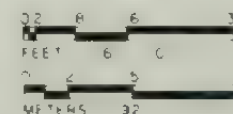


**ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK / NEW JERSEY**

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

SECOND FLOOR PLAN

SCALE



EXISTING CONDITIONS

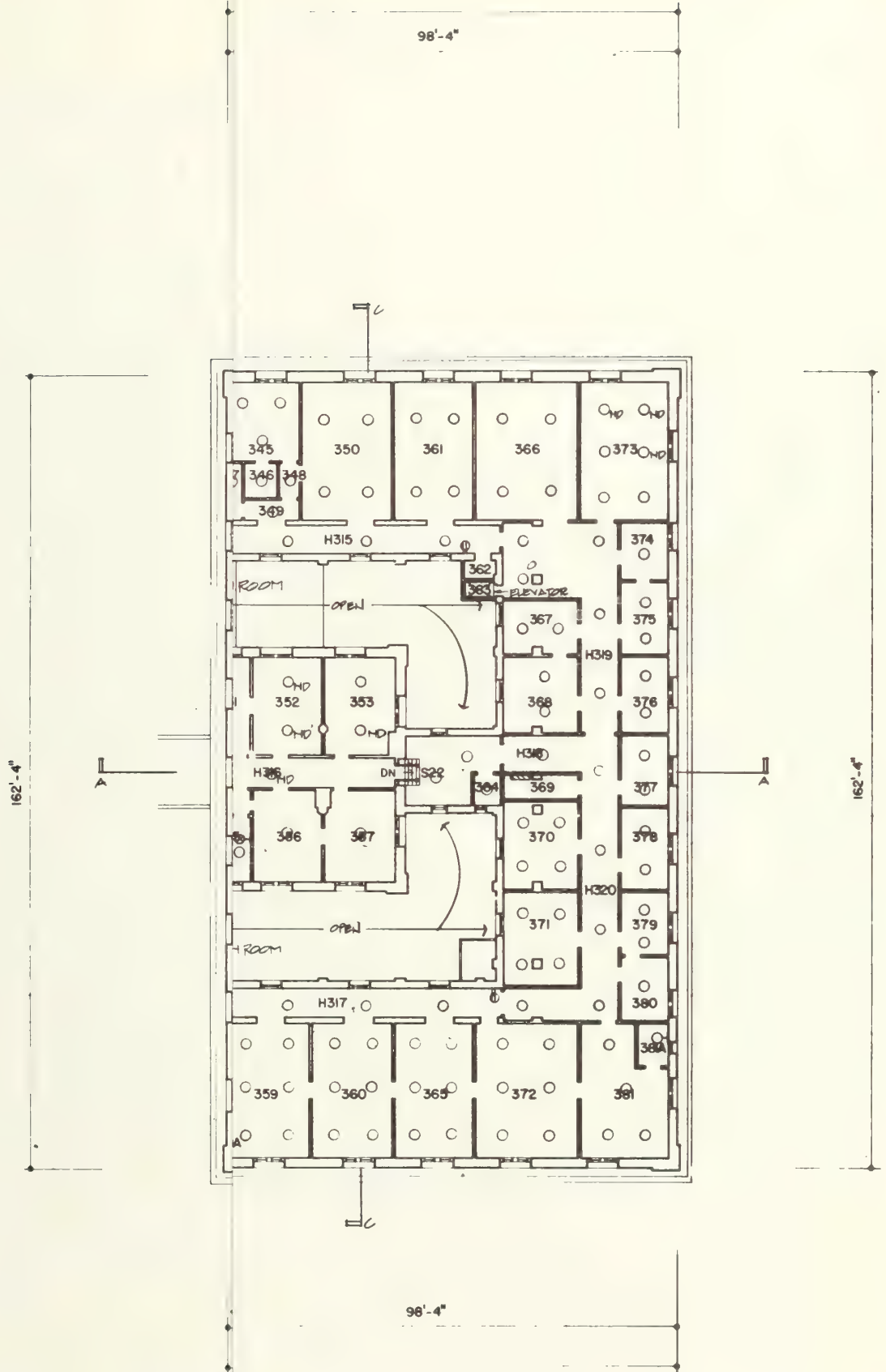
DATE: 1/1/93 11/16/93
SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036

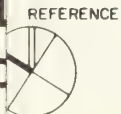
DWG

E-3

356 | 26,002 / 51 of 70
DSC | JUL 88



ELLIS ISLAND
MAIN BUILDING



EXISTING CONDITIONS

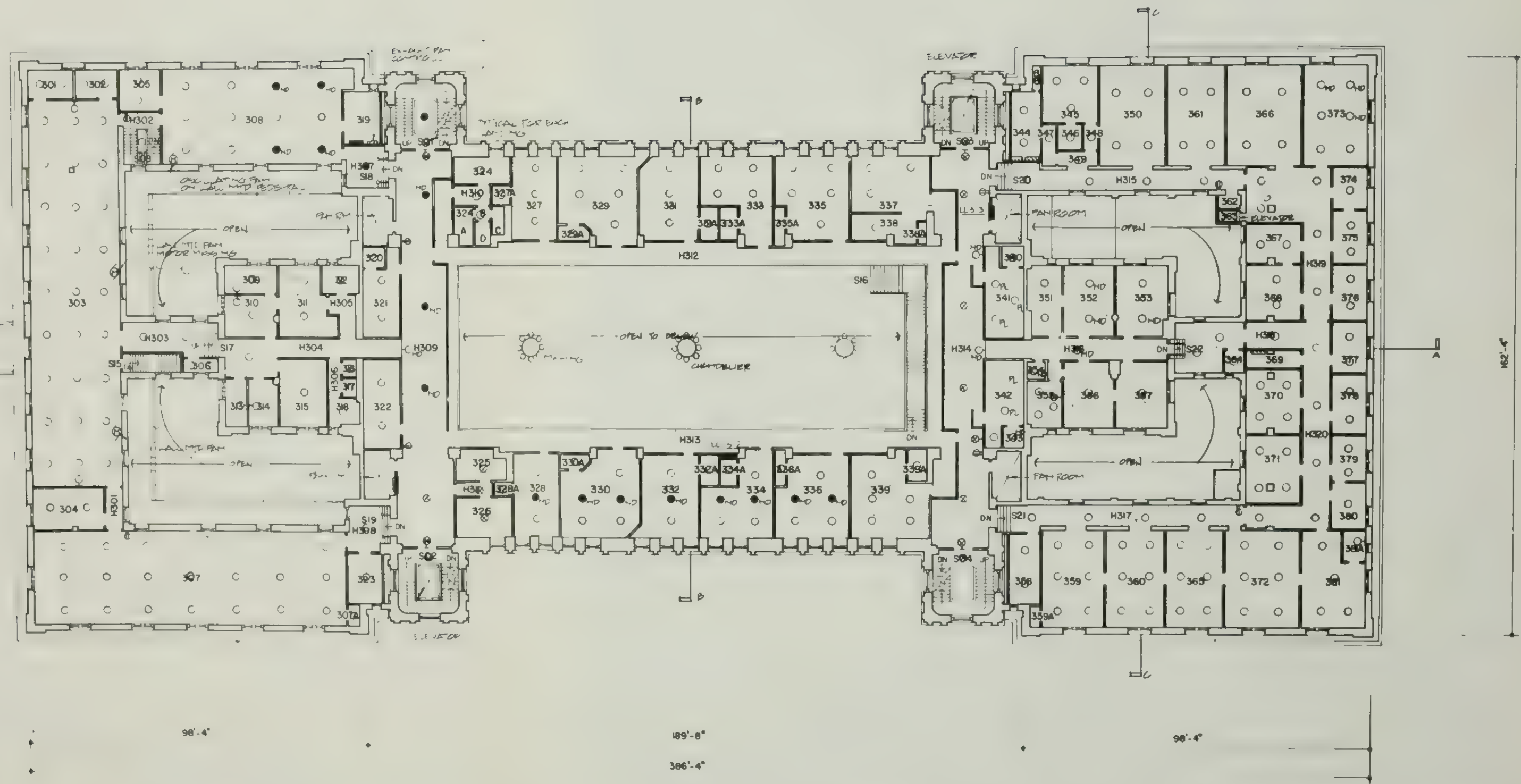
DATE: 11/1/83 11/16/83

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG.

E-4

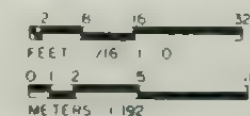


ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.
356 26,002 / 52 of 70
DSC JUL 88

THIRD FLOOR PLAN

SCALE



EXISTING CONDITIONS

DATE: 11/1/83 11/16/83
SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS
11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG. **E-4**

4. Heating and Ventilation

a. History¹

The main building was originally heated by a combined system of steam radiation and tempered air ventilation designed in 1899 by William J. Baldwin, consulting mechanical engineer from New York City. Steam, was produced in the powerhouse on island 1 by three high-pressure (approximately 125 psig) water tube boilers fabricated by Babcock and Wilcox. The steam was primarily used to power back-pressure-type steam turbines driving direct current generators as well as for boiler accessories such as feed pumps. The exhaust steam was used for heating purposes and operated at low pressure (2 psig). The boilers were of the sinuous header, straight tube, single drum type and were originally intended for coal firing but were later converted to oil.

Steam was transferred from the powerhouse to the main building through twelve-inch supply mains via the passageway along the east side of the bakery and carpentry shop and through the basement of the kitchen and laundry building to the basement of the main building. The steam was then distributed through a system of eight, four and one or 1-1/2 inch supply lines to the sectional cast-iron radiators located under each of the windows and in the stairtowers.

In addition to the steam radiation heat, a ventilation system supplied tempered air to most of the

¹This section is based on Building Conservation Technology/The Ehrenkrantz Group, "Historic Structures Report; Ellis Island", prepared for the National Park Service, 1978, pp. 67-68.

spaces within the building. Fresh air was drawn in at the roof level through four vents adjacent to the stair towers. It was pulled through cold air ducts to the basement by six 90-inch electric motor-powered propeller fans located at the base of the ducts in the basement. The fresh air was then propelled through steam heating coils located within large floor-to-ceiling brick-enclosed ducts. The warmed air then flowed back up through the building via galvanized metal ducts and into the rooms through wall registers. The register boxes were covered with decorative cast-iron grilles. The temperature and flow of air was controlled by rheostats mounted on the fresh air fan motors, by electric thermometers located in the hot air ducts, dampers located on the cold air side of the heating coils, and thermostats located within the occupied spaces.

Air was drawn out of the building, via metal ducts and vent shafts, by large electric motor-powered exhaust fans located just below roof level.

The steam radiation system was altered and expanded with the additions of the railroad ticket office and the third floor wings. In addition, there was continual maintenance including replacement of piping, traps, nipples, etc., so that little of the existing piping is original. Major changes to the heating system done in 1927 by David Brandt, Inc. also included the installation of pipe covering throughout the basement and on most branches, risers and returns at the upper floors.² All radiators and branch piping were originally painted and most of the sectional radiators were bronzed and varnished.

²U.S. Department of the Interior, National Park Service, Denver Service Center, "Historic Structure Report; Ellis Island; Historical Data", by Harlan D. Unrau, 1981, pp. 171-72.

The ventilation system was upgraded in 1908 to provide air change within the rooms every five minutes. The normal rate was three to five air changes per hour.

b. Existing Conditions³

In November of 1983, Syska & Hennessy documented all existing heating pipe distribution and ductwork in the main building. Heating and ventilation systems are represented on exhibits H-1 through H-4. Specific steam radiator locations are depicted on the architectural drawings (see pages 190-92).

The exteriors of a limited number of tubes in the original boiler show extensive corrosion. The firebrick of the furnace walls is badly deteriorated as in the outside brick setting. The structural steel is badly corroded and the shut-off, regulatory, and safety valves are inoperative due to rust and dirt accumulation. The oil firing equipment is missing and the gauges are either missing or broken.

The exterior steel casings of the 1948 boilers are badly corroded and very thin in places. The furnace is in fair condition as far as could be determined. Due to other more serious conditions, no attempt was made to enter the combustion space for detailed inspection. The manhole covers on all steam and mud drums have been removed and the interiors were exposed for close inspection. All drums

³This section is based in part on Building Conservation Technology/The Ehrenkrantz Group and Syska & Hennessy, Inc., "Mechanical and Electrical Rehabilitation Main Building; Ellis Island", prepared for the National Park Service, 1978.

showed heavy deposits of rust and scale. Feedwater distribution troughs and the steam separators have deteriorated badly and are no longer serviceable. The rolled edges of the tubes are not visible for inspection. Shut-off, regulatory and safety valves are inoperative due to extensive rust. The oil firing equipment is missing and the gauges are either missing or broken. Boiler auxiliaries, including feedwater heaters, regulators and pumps are all in poor condition and are not reusable.

Steam piping appears to be in good condition in some areas and poor in others. The worst piping deterioration is in the basement horizontal distribution terminal to the north end. Vertical risers appear to be in fair condition and where surface rust is evident it is because they are exposed to areas where the building is not sealed.

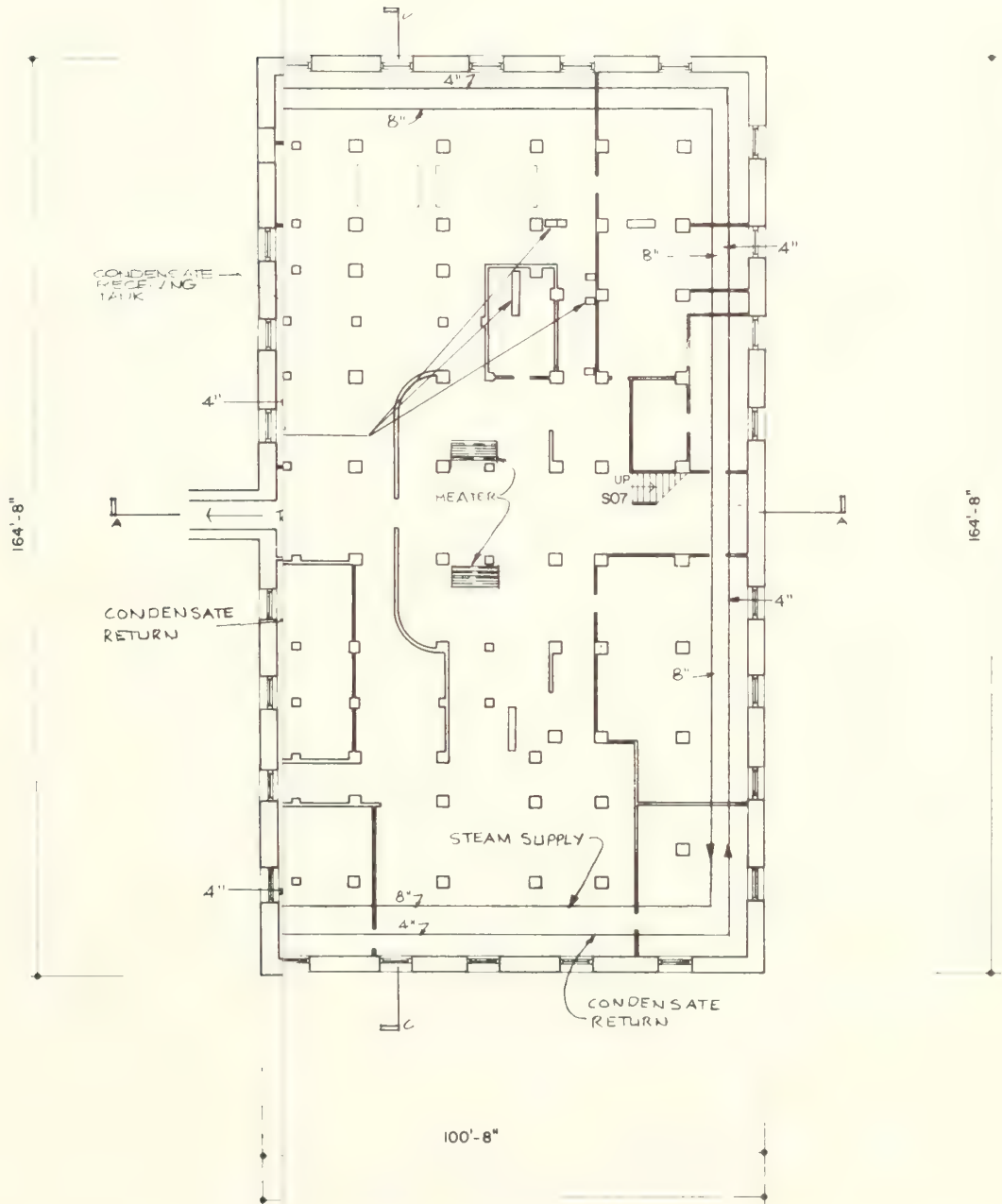
Hangers and supporting devices in the basement are rapidly corroding and require strengthening. Some surface rust does exist but outward appearance is not a real indication of true condition or serviceability. Most valves are badly deteriorated and are not serviceable.

Several types of steam radiators exist in the main building: typical sectional radiators, curved sectional radiators located in the rounded corners of the stairtowers, utilitarian exposed pipe clusters in the railroad ticket office, decorative radiators with scrolled tops, wall mounted radiators, and electric baseboard radiators (photos 1 through 6). The radiators are generally in good condition and probably could remain serviceable for an indefinite period of time. Valves and traps are in poor condition and will require servicing and/or replacement prior to use.

100'-8"

SOME OF THE PIPING SECTIONS HAVE BEEN
REMOVED THEREFORE THE LOOP IS NOT CONTINUOUS

2 FOR LOCATION OF RADIATORS SEE ARCHITECTURAL DWGS.



ELLIS ISLAND REFERENCE
MAIN BUILDING

EXISTING CONDITIONS

DATE: 11/23/83

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

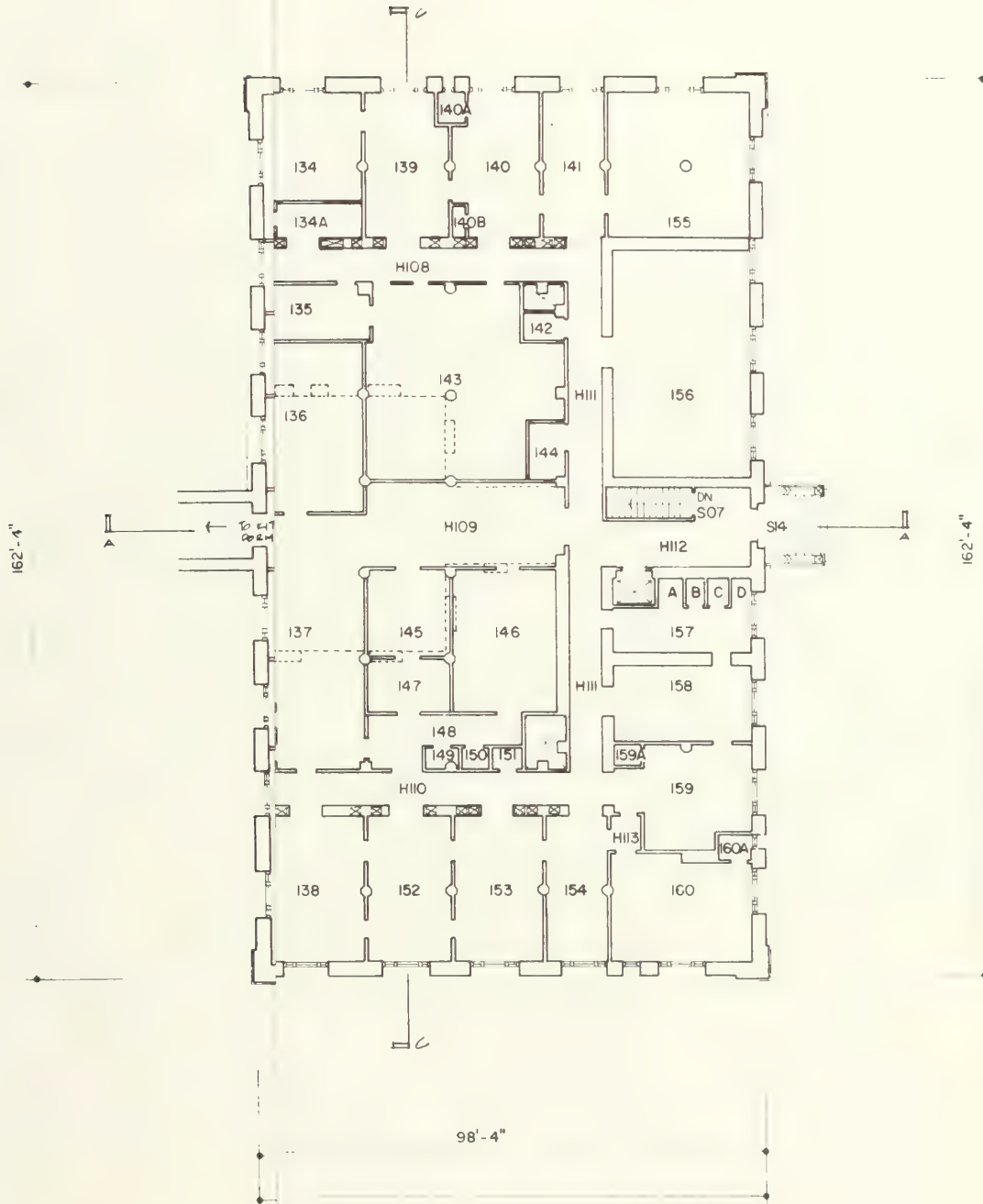
11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG.

H-1

98'-4"

FOR LOCATION OF RADIATORS SEE ARCHITECTURAL
DWGS.



ELLIS ISL
MAIN BUILD

REFERENCE

EXISTING CONDITIONS

DATE: 11/23/83

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

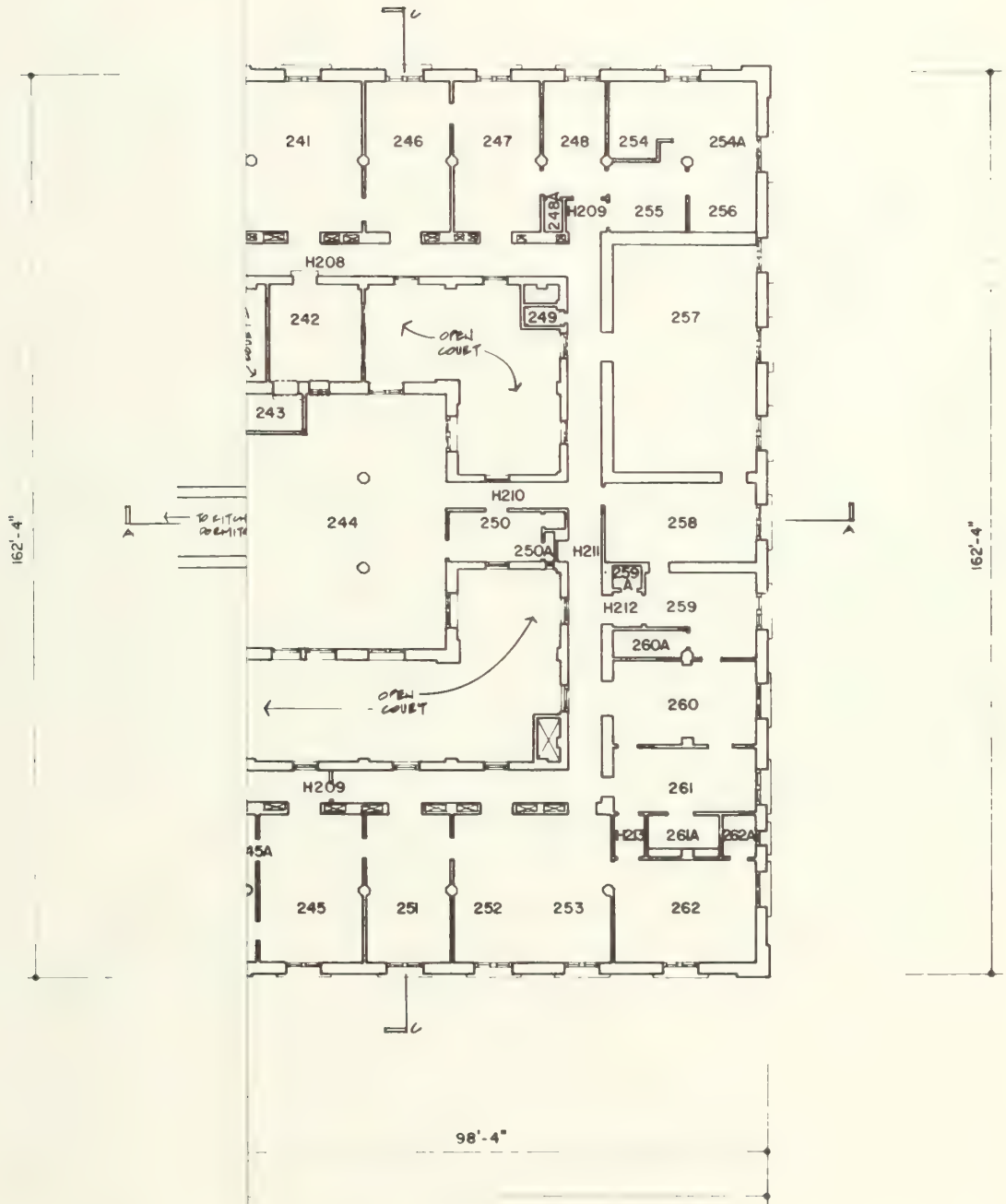
11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG.

H-2

98'-4"

NOTE: 1 FOR LOCATION OF RADIATORS SEE ARCHITECTURAL DWGS



ELLIS IS
MAIN BUILDING

REFERENCE



EXISTING CONDITIONS

DATE: 11/1/31

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036

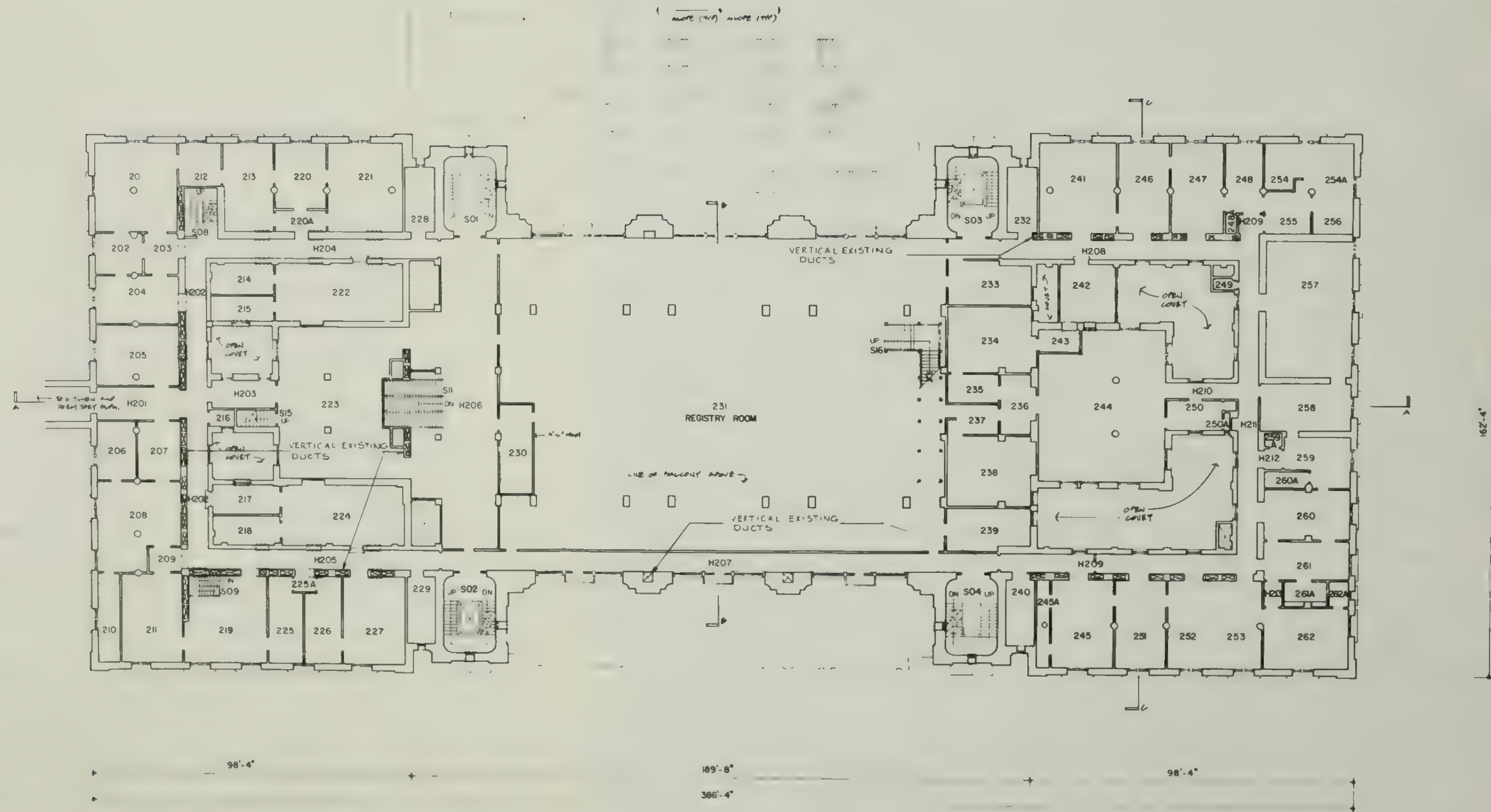
DWG. **H-3**

98'-4"

386'-4"

98'-4"

NOTE 1 FOR LOCATION OF RADIATORS SEE ARCHITECTURAL DWGS



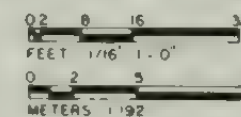
ELLIS ISLAND NATIONAL MONUMENT MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

356 | 26,002 / 55 of 70
DSC | JUL 88

SECOND FLOOR PLAN

SCALE



REFERENCE



EXISTING CONDITIONS

DATE 11/ 3/88

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

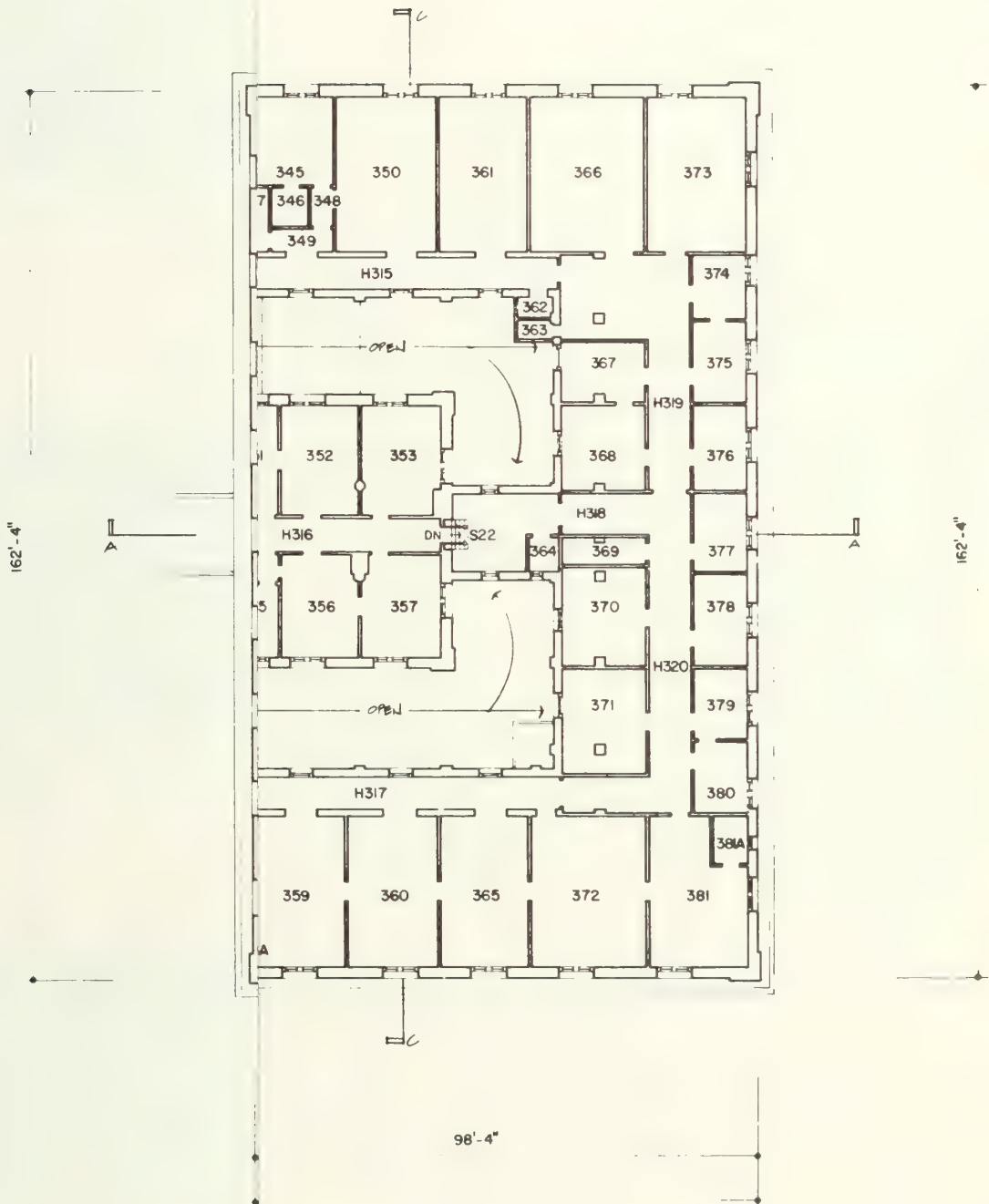
11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG

H-3

98'-4"

NOTE 1. FOR LOCATION OF RADIATORS SEE
ARCHITECTURAL DWGS.



ELLIS ISI
MAIN BUILDING

REFERENCE



EXISTING CONDITIONS

DATE: 11/13/93

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG. **H-4**

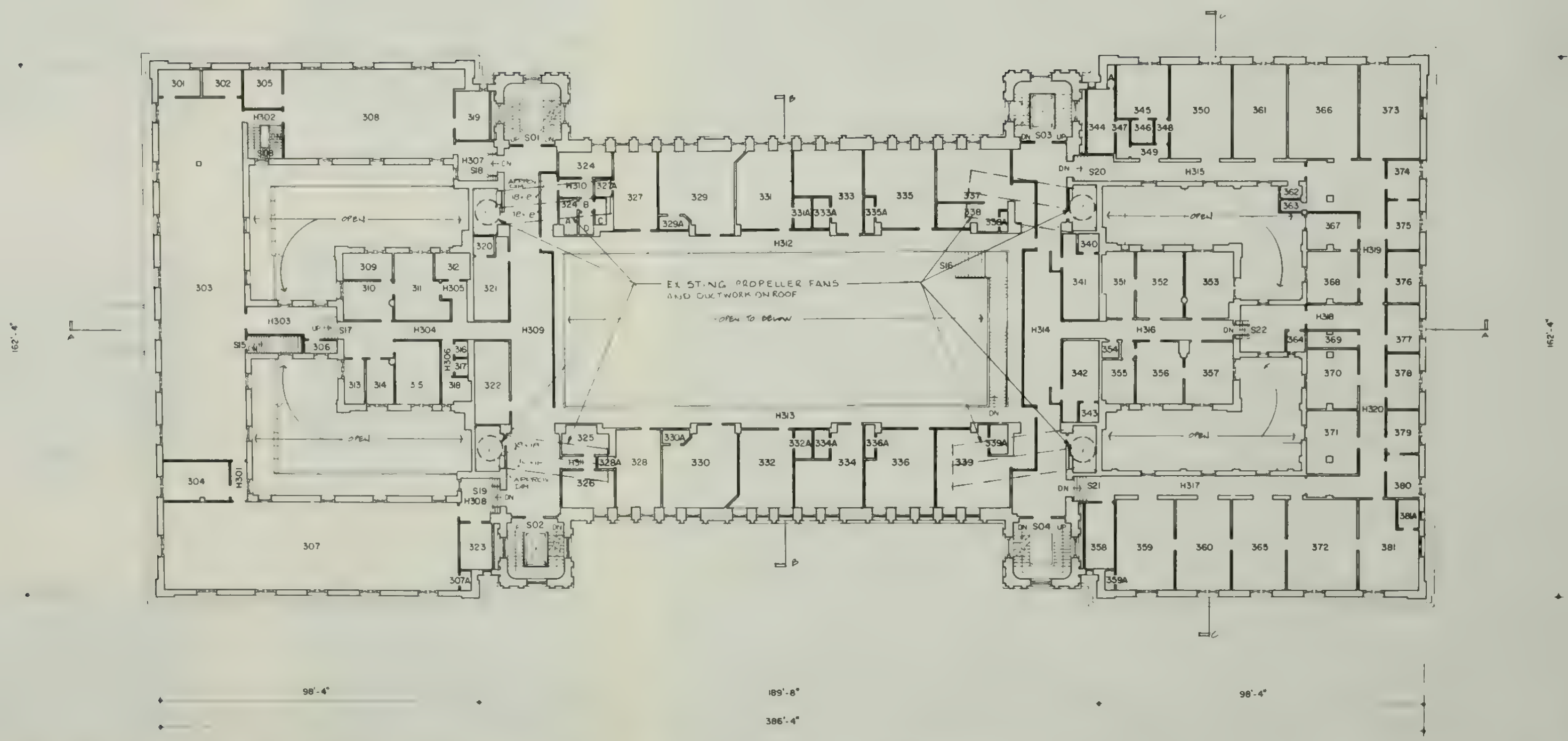
98'-4"

386'-4"

189'-8"

98'-4"

NOTE: FOR LOCATION OF RADIATORS SEE ARCHITECTURAL DWGS.

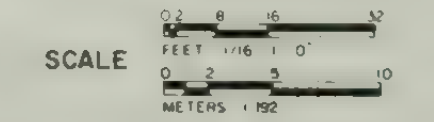


ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

356 26,002 / 56 of 70
DSC JUL 88

THIRD FLOOR PLAN

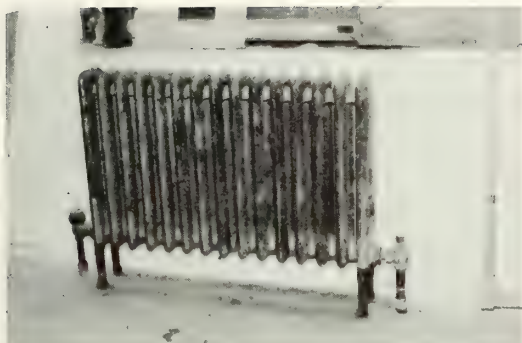


EXISTING CONDITIONS

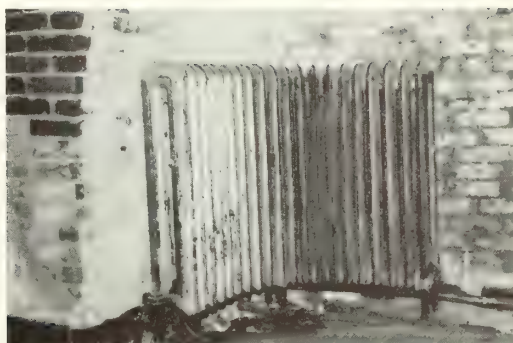
DATE 7-1-88
SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS
11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG H-4

Radiators



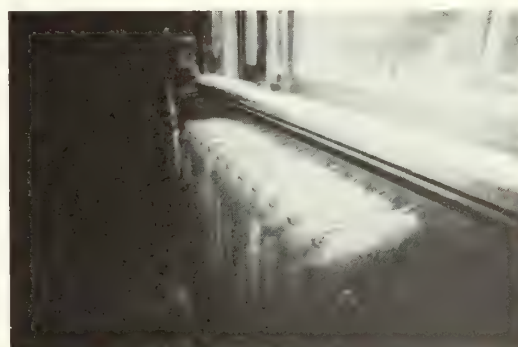
1. Typical sectional radiator, ca. 1900.



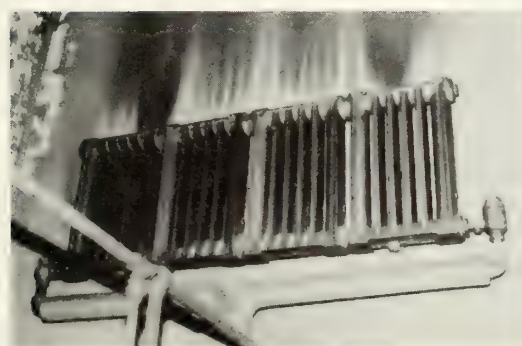
2. Curved sectional radiator, ca. 1900, stair tower.



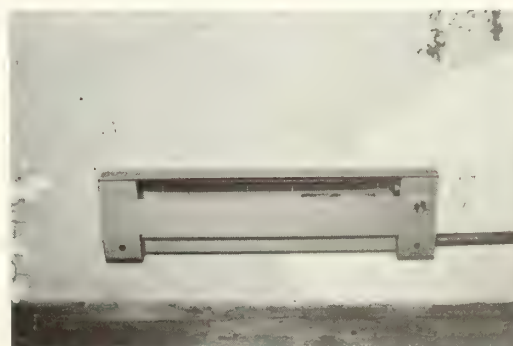
3. Exposed steam risers and pipe clusters, ca. 1905-7, railroad ticket office.



4. Decorative radiator, room 109.



5. Wall mounted radiator, room 324.

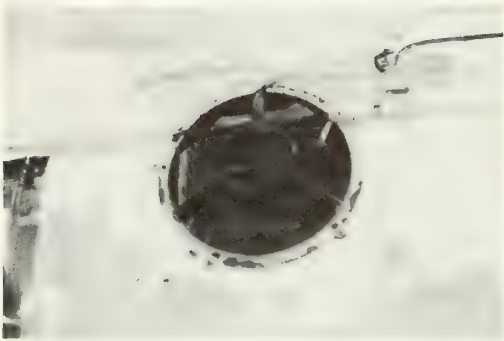


6. Electric baseboard radiator, 1980, room 153.

Only a small portion of the 1908 brick-walled duct system remains in the east end of the basement. All other walls, fans, motors, heating coils and dampers from this early system have been removed. Many of the metal ducts are located in the ceiling of the basement but have been blocked on the upper floors. The main supply and exhaust shafts still exist, but they, too, have been blocked off; three at the basement ceiling and all at the upper floor levels. The large exhaust fans are extant but are severely corroded and inoperable. A number of other exhaust fans as well as wall mounted fans are extant (photos 7-9). Most of the decorative cast-iron grilles which covered the register boxes are still in place (photo 10).

Nearly all office and rooms in the east and west wings have wall-mounted brackets where portable fans were once placed.

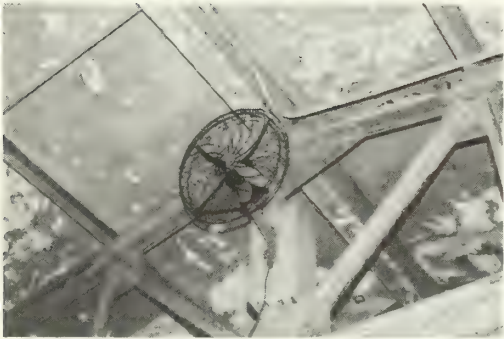
Ventilation



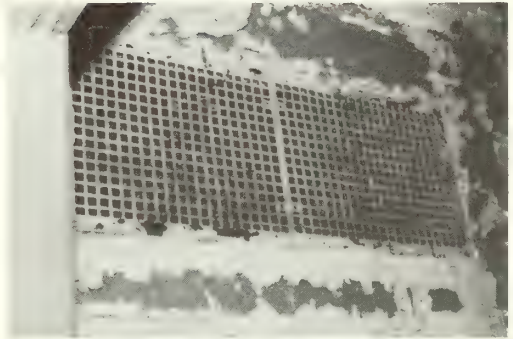
7. Large exhaust fan, ca. 1911, room 303.



8. Wall mounted fan, room 226.



9. Fan mounted on truss, railroad ticket office.



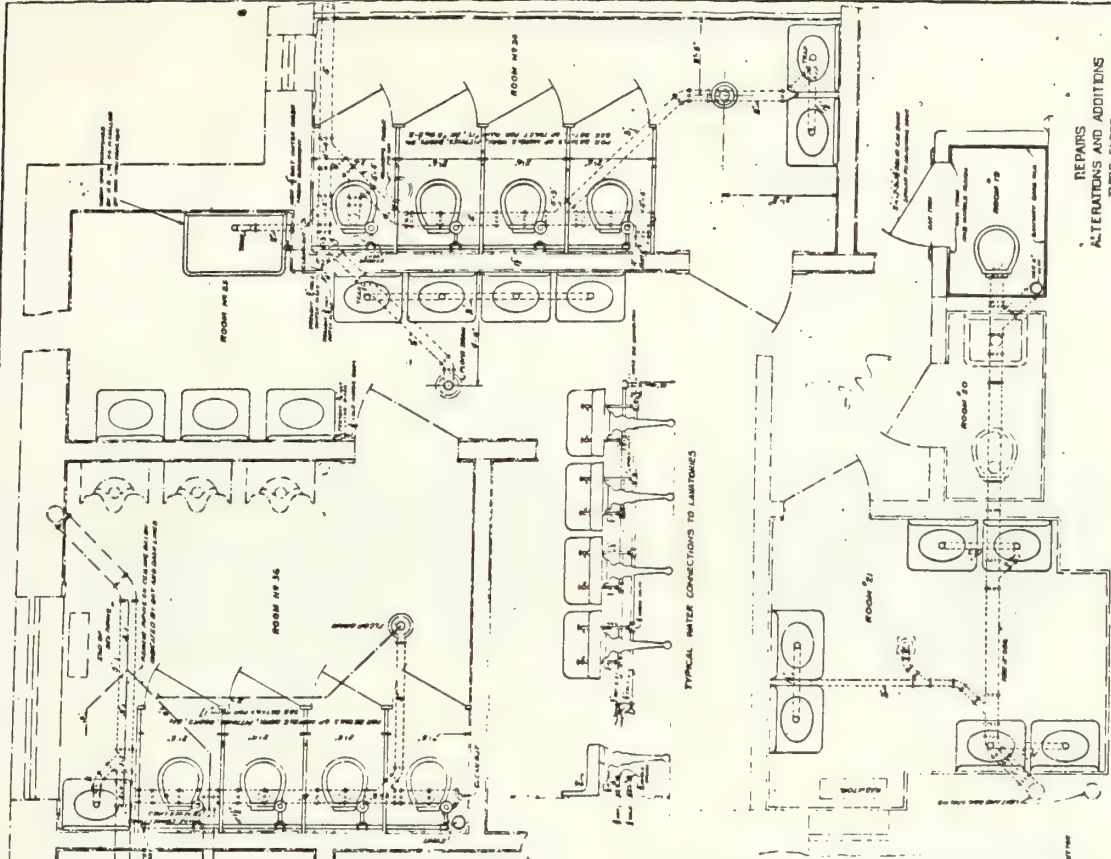
10. Typical decorative iron grille, ca. 1900, hall 305.

5. Plumbing

a. History

The original contract for plumbing, marble, and slate work was let to James Armstrong of New York City in June 1899. The work was completed by early 1901. From the beginning, alterations and additions in the plumbing system were necessary. Minor projects, including the installation of lavatories in the medical department and plumbing changes, were executed during 1901. Additional fixtures and floor drains were added in 1904 and 1905. As the plan and functions of the building evolved over time additional plumbing was installed. Projects included the division of the balcony dormitories in 1908; the third floor additions to the west wing in 1911 and the east wing in 1914-1915; and the renovation of the first floor east wing for the medical division in 1911 and 1916. During the 1910's, many antiquated toilets and pipes were also replaced.

A number of major alterations were made in 1924 (exhibit 1). Four toilet rooms were constructed at the east end of the registry room when it was converted into special inquiry and temporary detention rooms. In addition, it was proposed that toilets be added in several other locations in the building. However, it is unknown how many of these proposals were executed. Repairs, replacements, and alterations of toilet equipment were made in 1926, 1930, and 1932. Several drains were installed and many plumbing fixtures and fittings were changed in 1934. In 1935 the plumbing equipment in the main building was modernized and changes were probably made in rooms on all floors. Subsequent work was done as changes in the function of the building occurred. Plumbing work was involved in the

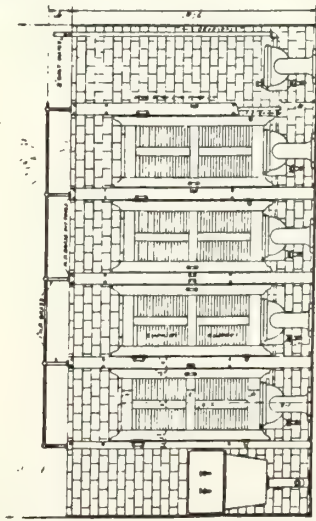
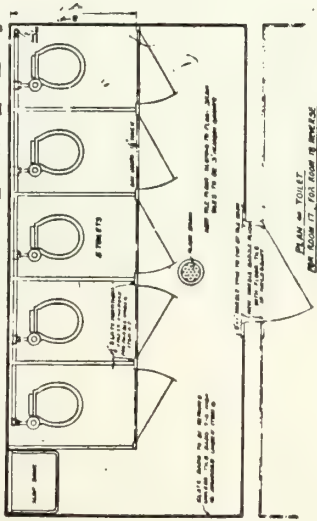
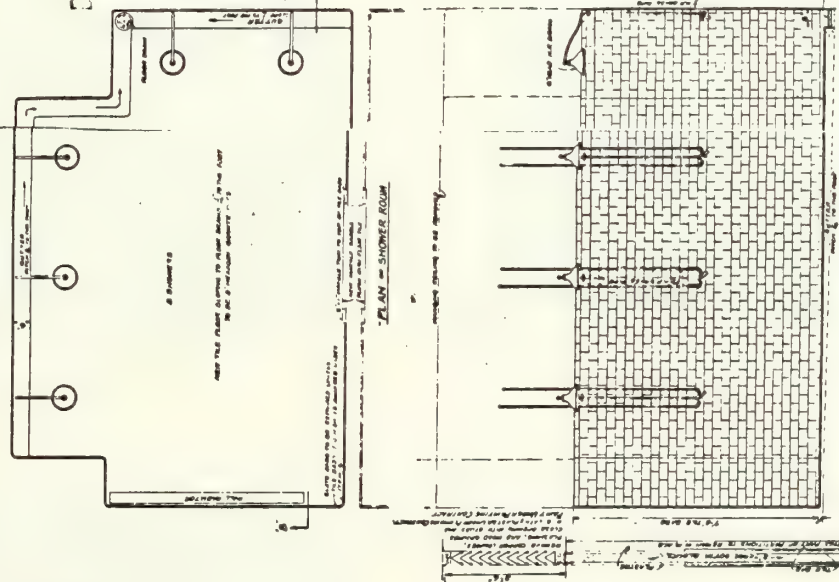


REPAIRS
ALTERATIONS AND ADDITIONS
THIRD FLOOR
MAIN ADMINISTRATION BUILDING
BLAND #1
U.S. DEPARTMENT OF LABOR
BLAND #1
E962-2

DATE: 4/2/54
BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

SCALE DETAILS

356 41,969 / 3 of 5
DSC JUL 88



relocation of the law division to the third floor east wing in 1940 and in the alteration of the third floor east wing to the detention quarters in 1945.¹

The various plumbing fixture types and styles found at the main building illustrate the number of plumbing modifications which have occurred throughout the history of the building. Also represented is an important collection of historic plumbing fixtures which indicates the evolution of institutional plumbing technology during the first half of this century.

The "Existing Condition Survey" (Appendix A) component of this historic structure report shows the variety of plumbing fixtures in the main building in their architectural context. Representative examples of fixture types are illustrated in photos 1 through 21.

Water was fed to Ellis Island by service from Jersey City. Hot water was supplied from local storage type hot water heaters. Only one electric storage type water heater is presently functioning and is located in a janitor's closet adjacent to the toilet facilities located in the ferry building.

The main building was drained by gravity through a combined sanitary and storm water drainage system. The main sewers ran at the basement ceiling and discharged into the bay. These combined drains served all the plumbing fixtures on the first floor and above. Roof drainage was handled

¹U.S. Department of the Interior, National Park Service, Denver Service Center, "Historic Structure Report; Ellis Island; Historical Data", by Harlan D. Unrau, 1981, pp. 70-75.

Sinks



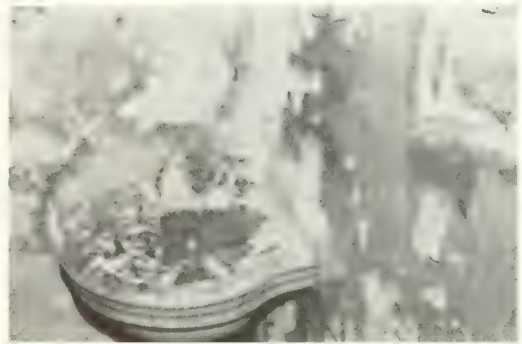
1. Typical pedestal sink, used from 1900-1924.



2. Pedestal sink, room 137, 1930's.



3. Wall mounted sink, 1930's, room 160A.



4. Wall mounted sink, room 140A.



5. Wall mounted sinks, 1940's, room 102.

Slop Sinks



6. Room 216



7. Room 137



8. Room 344A



9. Room 321

Toilets



10. Room 322A



11. Room 160A

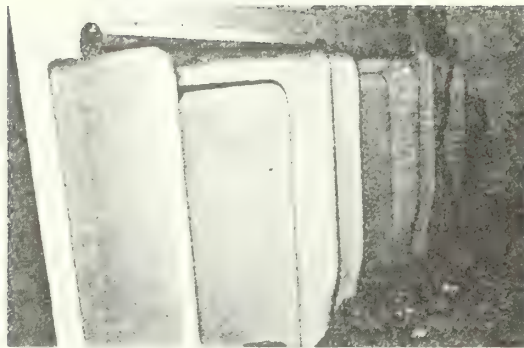


12. Room 381A



13. Room 124

Urinals



14. Urinal, 1911, room 302.



15. Urinal, 1924, room 233.



16. Urinal, room 133.



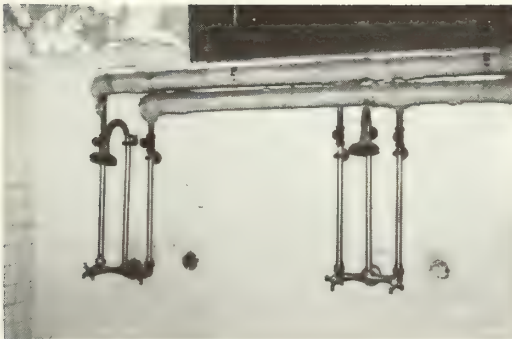
17. Urinal, 1940's, room 123.



18. Bathtub, ca. 1924, room 324A.



19. Shower, pre-1924, room 318.



20. Showers, 1924, room 325.



21. Aluminum stall showers, 1940's, room 304.

through a system of cast-iron vertical leaders located within the masonry walls. These leaders drained to the combined house sewers at the basement ceiling.

Fire protection was provided by a sprinkler system in the basement and selected areas on the first floor of the main building. The sprinklers were fed from domestic water mains at the basement and first floor ceilings. In addition, two water storage tanks located just west of the powerhouse fed a standpipe system. A system of mains connected risers to fire hose stations throughout the building.²

b. Existing Conditions³

The main building has no running water at present. The water distribution system of the main building has been heavily damaged from neglect or vandalized with much of the piping removed. Exposure to salt air has caused extensive corroding of brass piping, fixtures, and hardware. Most of the original hot water heating equipment is destroyed. Existing PVC supply lines and the toilet facilities in the ferry building are in good condition and are adequate for the present demand. They are the only functioning plumbing equipment on the island.

Visual inspection of the house sewers in the basement of the main building showed extensive corrosion from exposure to the elements. Vertical storm water leaders

²These three paragraphs are from Building Conservation Technology et al., "Mechanical and Electrical".

³This section is based in part on Building Conservation Technology et al., "Mechanical and Electrical".

were recently replaced but not always with sensitivity to historic architectural fabric or with regard to long term benefit. For instance, a roof drain leader installed at the northeast corner of the ticket office is drained from within the building to the exterior through a window.

The fire standpipe system in the main building is not in operation nor in operable condition. The sprinkler system in the basement and first floor is badly deteriorated and is not salvageable for future use. Therefore, at the present time there are no fire fighting facilities on the island.

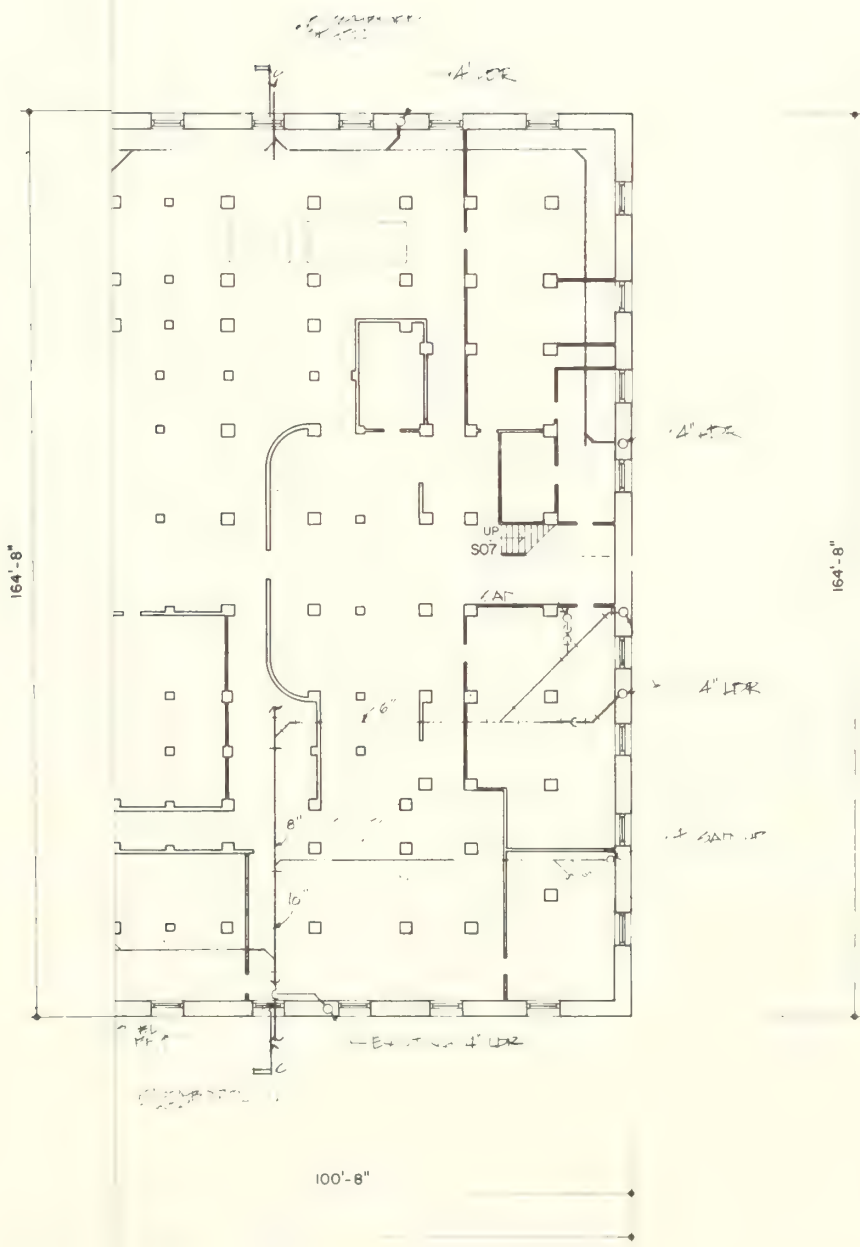
At the present time, physically accessible toilet facilities located in the main building consist of the following:⁴

| <u>Type:</u> | | <u>Count:</u> |
|--------------------|---|---------------|
| Water Closets | - | 151 |
| Urinals | - | 39 |
| Lavatories | - | 178 |
| Sinks | - | 3 |
| Service sinks | - | 28 |
| Laundry trays | - | 6 |
| Drinking fountains | - | 2 |
| Stall showers | - | 18 |
| Bathtubs | - | 5 |

⁴Syska & Hennessy, Inc., "Report on the Mechanical, Electrical, Plumbing and Fire Protection Systems at Ellis Island", 1983.

Locations of existing plumbing fixtures and equipment are depicted on exhibits P-1 through P-5. A major portion of the lavatories and urinals as well as some water closets, vitreous china portion, can be reused with new fittings and faucets.

1. MAIN WATER (3/4")
 2. STORM WATER (1/2")
 3. COLD WATER (1/2")
 4. HOT WATER (1/2")
 5. RADIANT COOLING (2/3")
 6. RADIANT HEATING (1/2")
 7. FRESH AIR (1/2")
 8. EXHAUST AIR (1/2")
 9. WASTE (1/2")
 10. VENT (1/2")
 11. EXHAUST AIR (1/2")
 12. EXHAUST AIR (1/2")
 13. EXHAUST AIR (1/2")
 14. EXHAUST AIR (1/2")
 15. EXHAUST AIR (1/2")
 16. EXHAUST AIR (1/2")
 17. EXHAUST AIR (1/2")
 18. EXHAUST AIR (1/2")
 19. EXHAUST AIR (1/2")
 20. EXHAUST AIR (1/2")
 21. EXHAUST AIR (1/2")
 22. EXHAUST AIR (1/2")
 23. EXHAUST AIR (1/2")
 24. EXHAUST AIR (1/2")
 25. EXHAUST AIR (1/2")
 26. EXHAUST AIR (1/2")
 27. EXHAUST AIR (1/2")
 28. EXHAUST AIR (1/2")
 29. EXHAUST AIR (1/2")
 30. EXHAUST AIR (1/2")
 31. EXHAUST AIR (1/2")
 32. EXHAUST AIR (1/2")
 33. EXHAUST AIR (1/2")
 34. EXHAUST AIR (1/2")
 35. EXHAUST AIR (1/2")
 36. EXHAUST AIR (1/2")
 37. EXHAUST AIR (1/2")
 38. EXHAUST AIR (1/2")
 39. EXHAUST AIR (1/2")
 40. EXHAUST AIR (1/2")
 41. EXHAUST AIR (1/2")
 42. EXHAUST AIR (1/2")
 43. EXHAUST AIR (1/2")
 44. EXHAUST AIR (1/2")
 45. EXHAUST AIR (1/2")
 46. EXHAUST AIR (1/2")
 47. EXHAUST AIR (1/2")
 48. EXHAUST AIR (1/2")
 49. EXHAUST AIR (1/2")
 50. EXHAUST AIR (1/2")
 51. EXHAUST AIR (1/2")
 52. EXHAUST AIR (1/2")
 53. EXHAUST AIR (1/2")
 54. EXHAUST AIR (1/2")
 55. EXHAUST AIR (1/2")
 56. EXHAUST AIR (1/2")
 57. EXHAUST AIR (1/2")
 58. EXHAUST AIR (1/2")
 59. EXHAUST AIR (1/2")
 60. EXHAUST AIR (1/2")
 61. EXHAUST AIR (1/2")
 62. EXHAUST AIR (1/2")
 63. EXHAUST AIR (1/2")
 64. EXHAUST AIR (1/2")
 65. EXHAUST AIR (1/2")
 66. EXHAUST AIR (1/2")
 67. EXHAUST AIR (1/2")
 68. EXHAUST AIR (1/2")
 69. EXHAUST AIR (1/2")
 70. EXHAUST AIR (1/2")
 71. EXHAUST AIR (1/2")
 72. EXHAUST AIR (1/2")
 73. EXHAUST AIR (1/2")
 74. EXHAUST AIR (1/2")
 75. EXHAUST AIR (1/2")
 76. EXHAUST AIR (1/2")
 77. EXHAUST AIR (1/2")
 78. EXHAUST AIR (1/2")
 79. EXHAUST AIR (1/2")
 80. EXHAUST AIR (1/2")
 81. EXHAUST AIR (1/2")
 82. EXHAUST AIR (1/2")
 83. EXHAUST AIR (1/2")
 84. EXHAUST AIR (1/2")
 85. EXHAUST AIR (1/2")
 86. EXHAUST AIR (1/2")
 87. EXHAUST AIR (1/2")
 88. EXHAUST AIR (1/2")
 89. EXHAUST AIR (1/2")
 90. EXHAUST AIR (1/2")
 91. EXHAUST AIR (1/2")
 92. EXHAUST AIR (1/2")
 93. EXHAUST AIR (1/2")
 94. EXHAUST AIR (1/2")
 95. EXHAUST AIR (1/2")
 96. EXHAUST AIR (1/2")
 97. EXHAUST AIR (1/2")
 98. EXHAUST AIR (1/2")
 99. EXHAUST AIR (1/2")
 100. EXHAUST AIR (1/2")

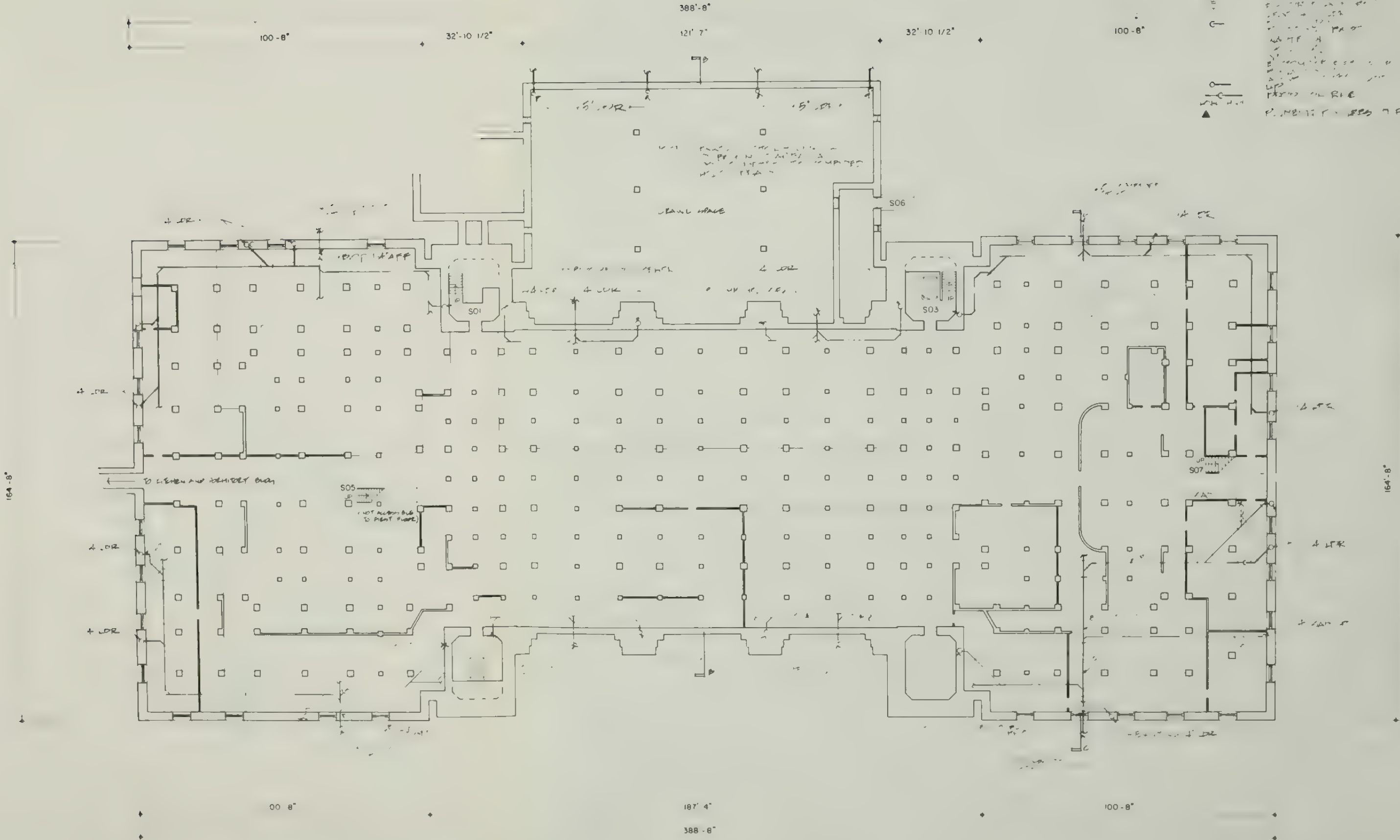


ELL
 MAIL

EXISTING CONDITIONS

DATE: 11/1/83
 SYSKA & HENNESSY
 MECHANICAL - ELECTRICAL
 ENGINEERS
 11 WEST 42ND STREET
 NEW YORK, N.Y. 10036

DWG. **P-1**



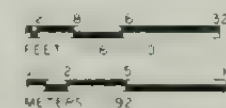
ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
 BEYER BLINDER BELLE
 ANDERSON NOTTER FINEGOLD INC.

356 | 26,002 / 57 of 70
 DSC | JUL 88

BASEMENT PLAN

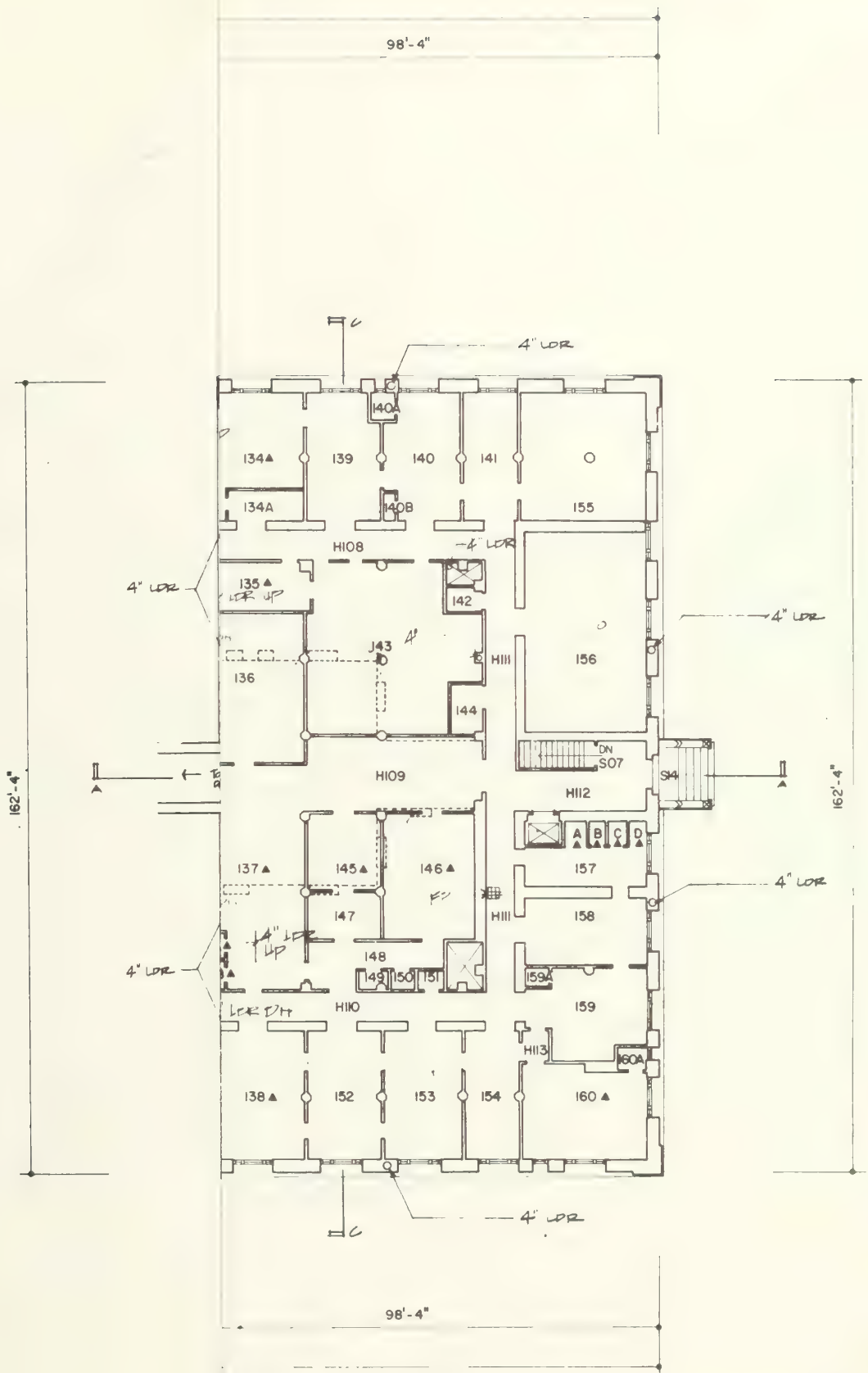
SCALE



EXISTING CONDITIONS

1/1/82
SYSKA & HENNESSY
 MECHANICAL - ELECTRICAL
 ENGINEERS
 11 WEST 42ND STREET
 NEW YORK, N.Y. 10036

UWG. **P-1**



ELLIS IS
MAIN BUILD

REFERENCE

EXISTING CONDITIONS

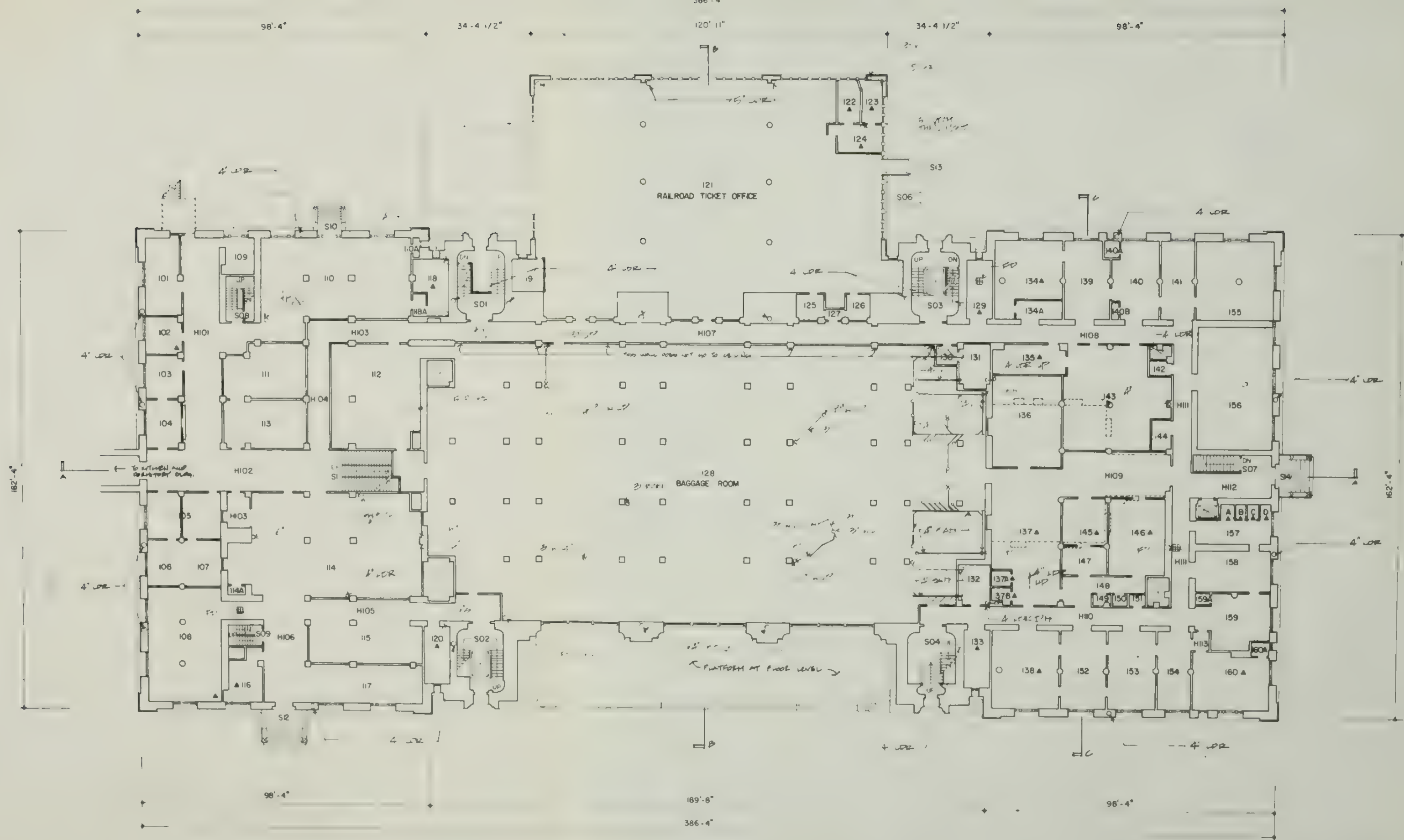
DATE: 11/1/83

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG.

P-2

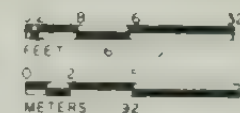


ELLIS ISLAND NATIONAL MONUMENT MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.
356 26,002 / 58 of 70
DSC JUL 88

FIRST FLOOR PLAN

SCALE



REFERENCE



EXISTING CONDITIONS

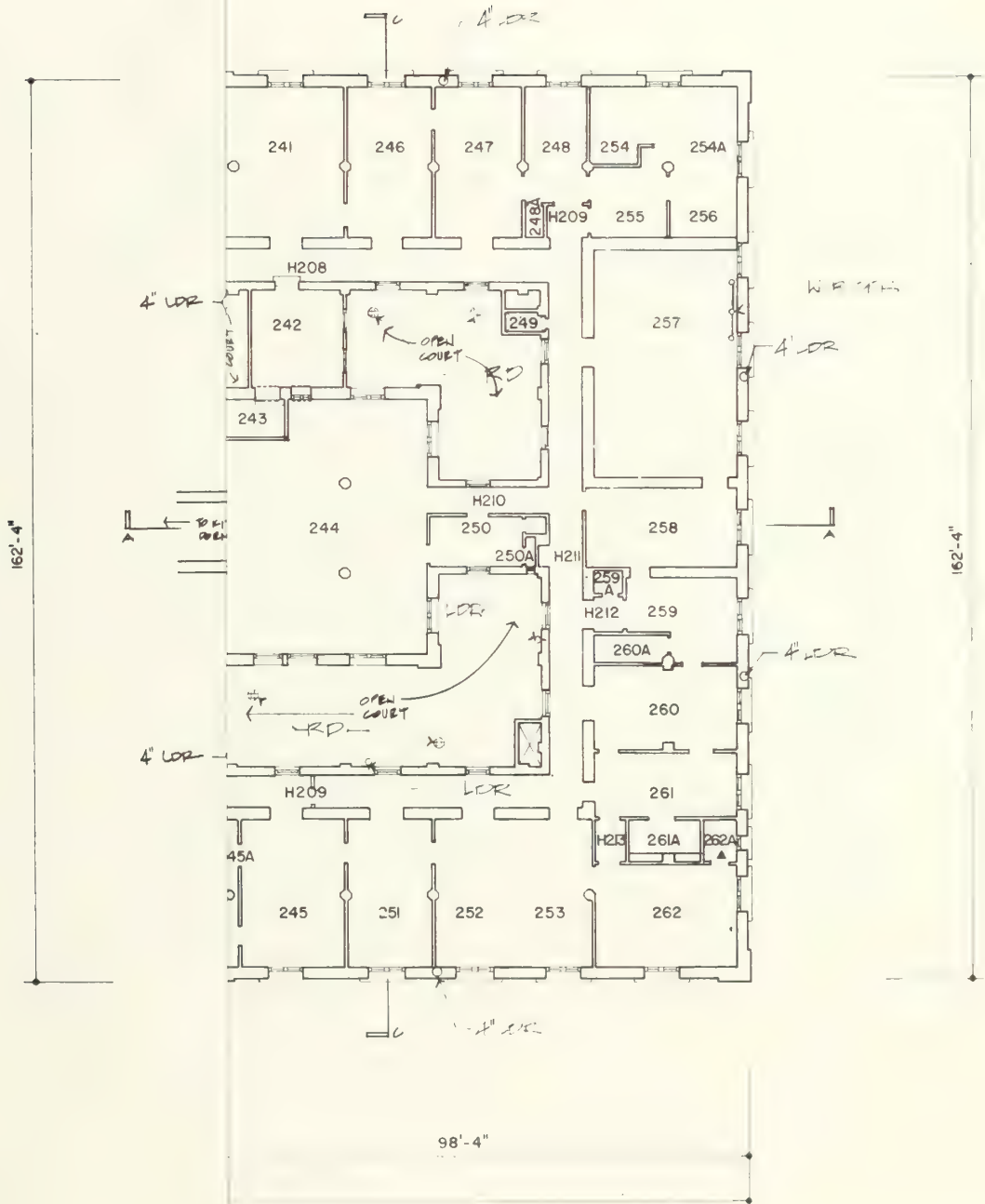
DATE 11/1/83

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036

DWG

P-2



ELLIS IS
MAIN BUILDING



EXISTING CONDITIONS

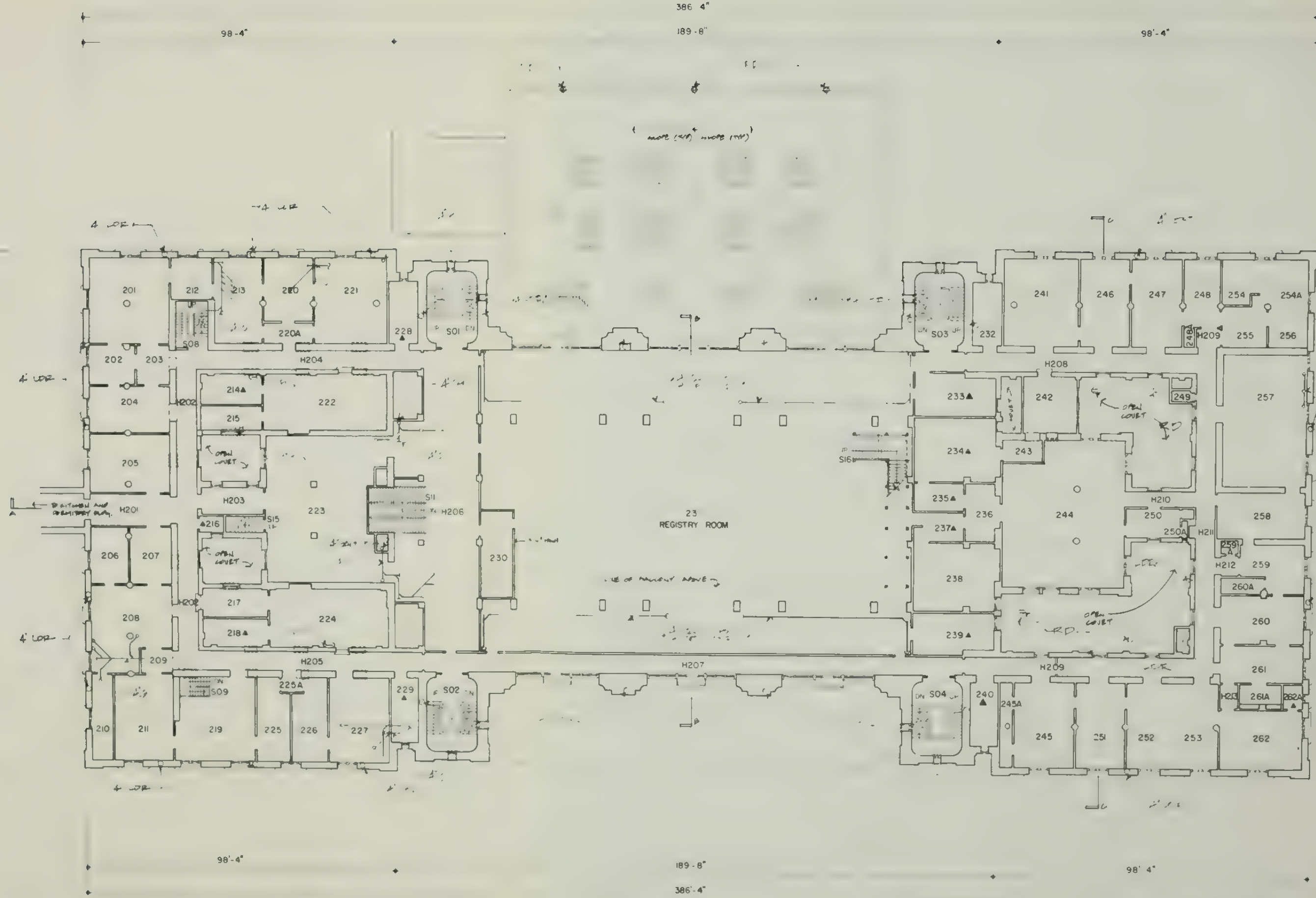
DATE: 11/1/63

DWG.

P-3

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036



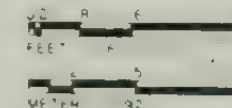
ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING **NEW YORK / NEW JERSEY**

ASSOCIATED ARCHITECTS
 BEYER BLINDER BELLE
 ANDERSON NOTTER FINEGOLD INC.

SECOND FLOOR PLAN

356 | 26,002 / 59 of 70
 DSC | JUL 88

SCALE



REFERENCE

EXISTING CONDITIONS

DATE 1/1/88

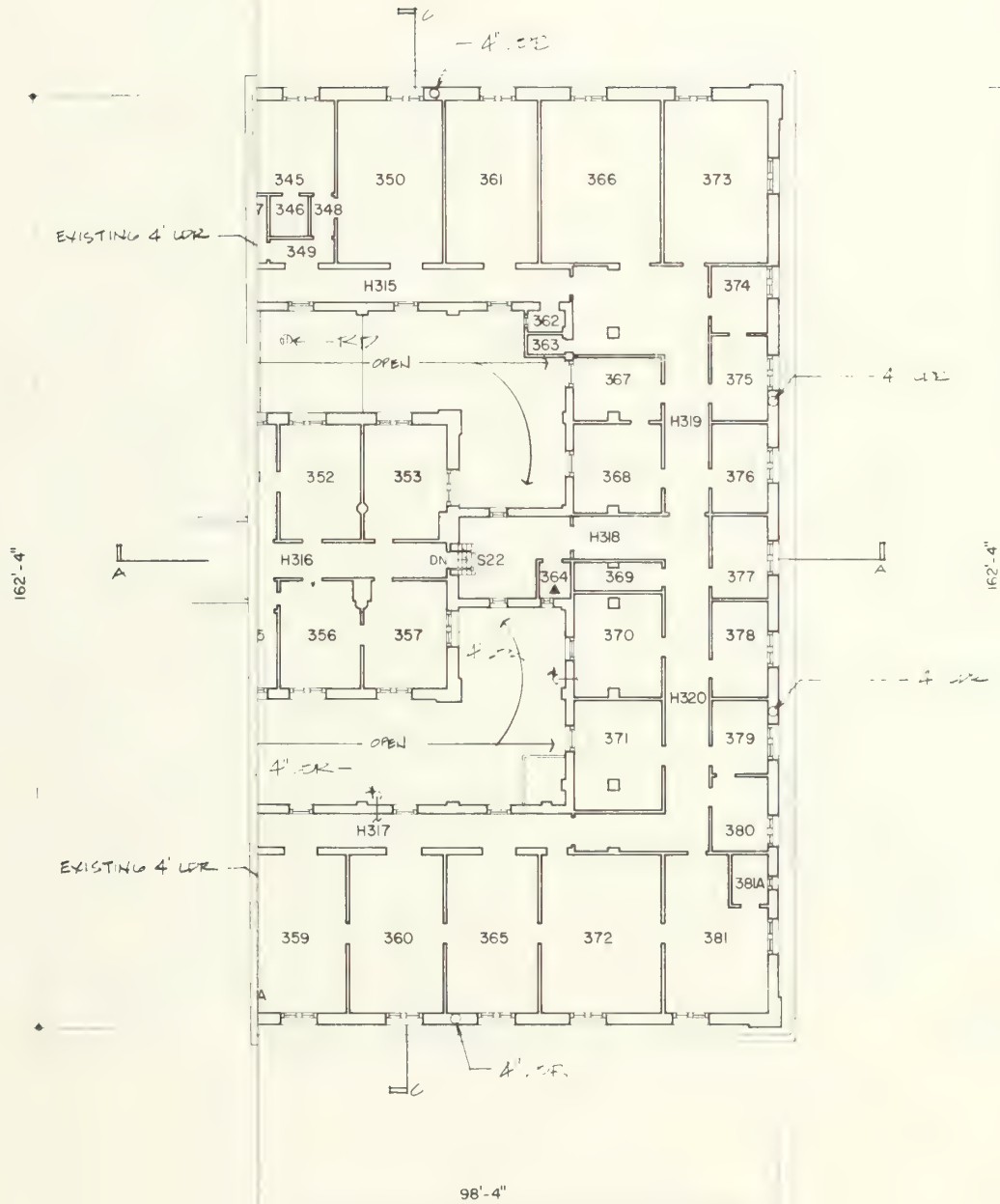
DWG

P-3

SYSKA & HENNESSY
 MECHANICAL - ELECTRICAL
 ENGINEERS

11 WEST 42ND STREET
 NEW YORK, N.Y. 10036

98'-4"



ELLIS IS
MAIN BUILD

REFERENCE



EXISTING CONDITIONS

DATE: 1/1/82

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036

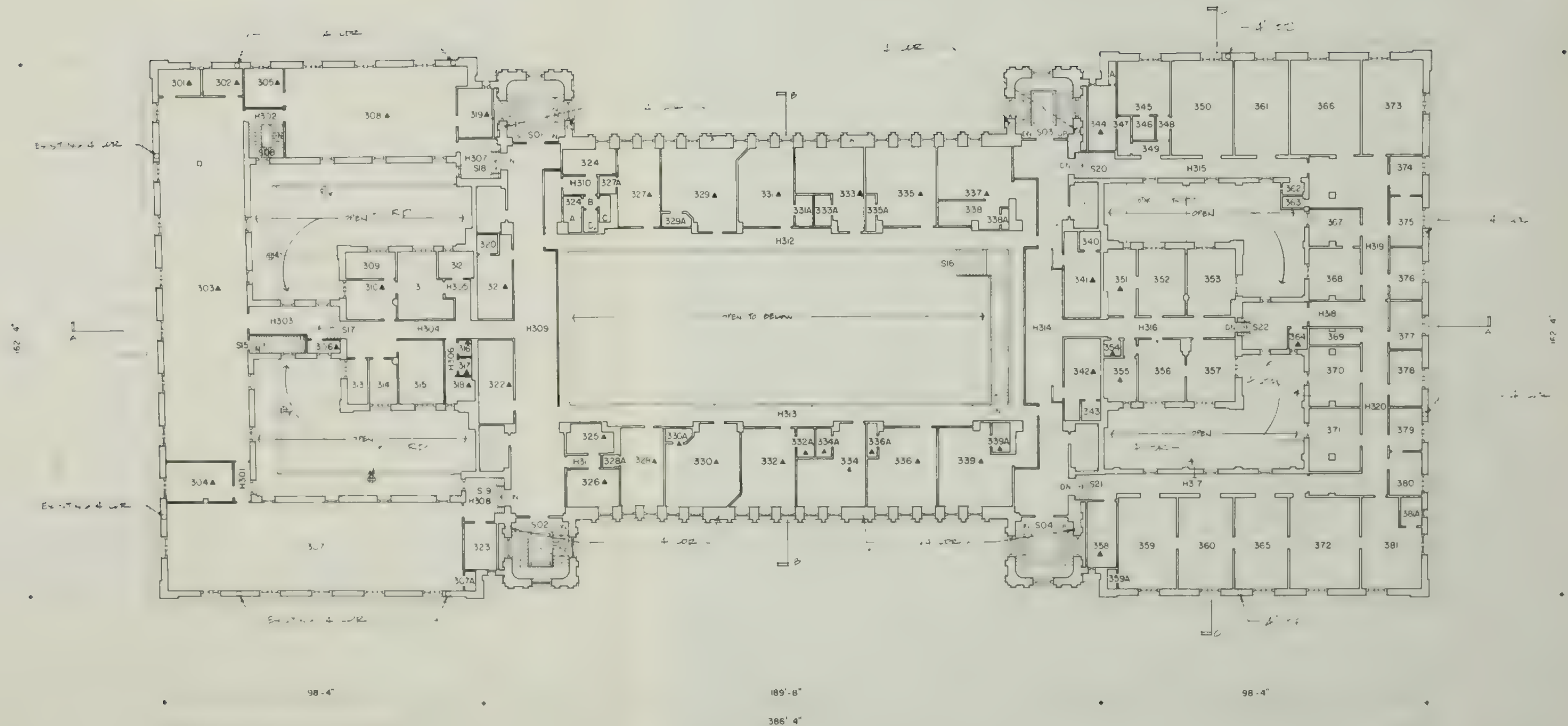
DWG.

P-4

98'-4"

386'-4"

98'-4"



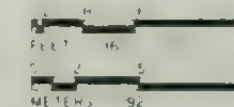
ELLIS ISLAND NATIONAL MONUMENT MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

356 / 26,002 / 60 of 70
DSC JUL 88

THIRD FLOOR PLAN

SCALE



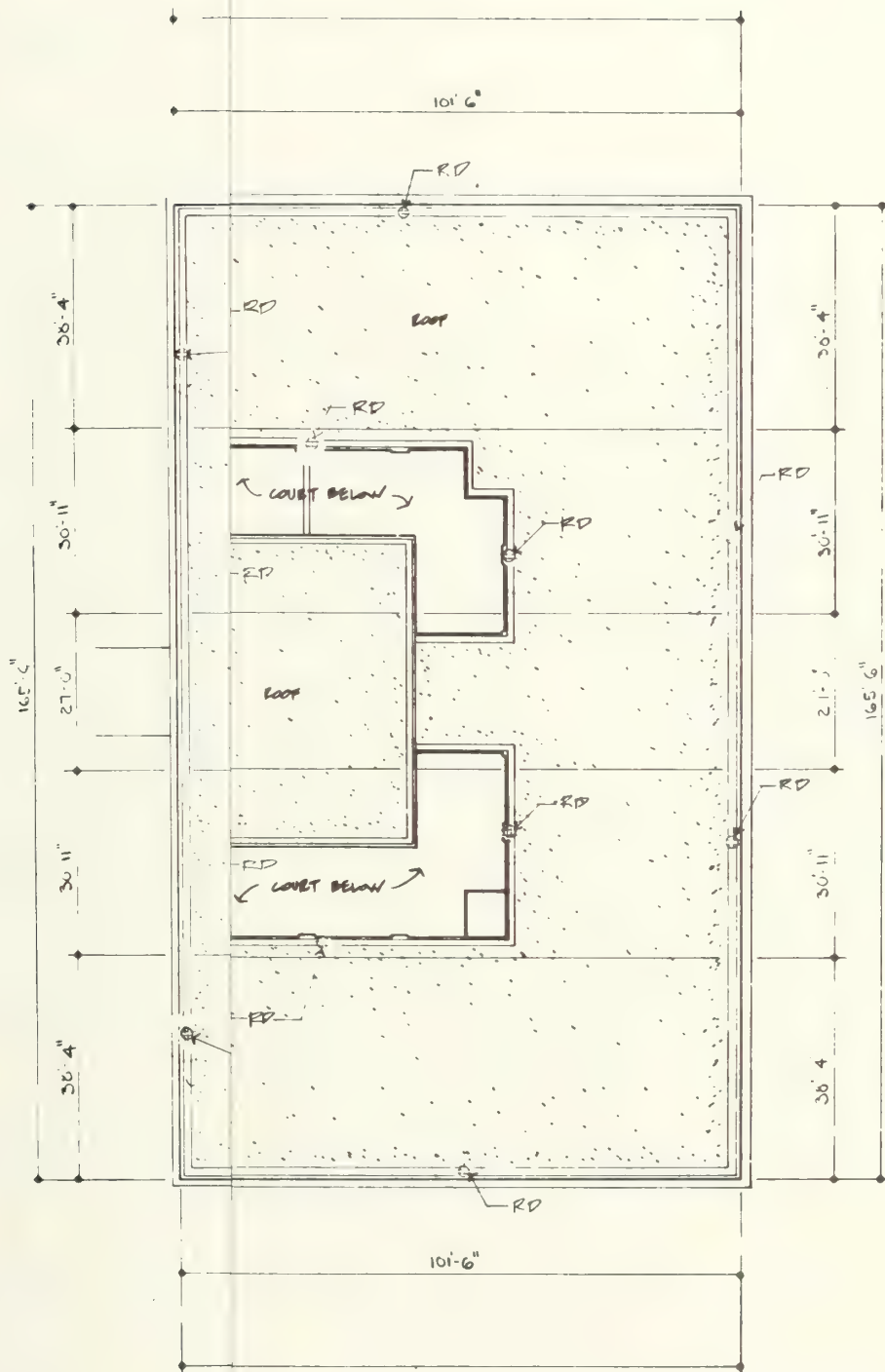
REFERENCE

EXISTING CONDITIONS

DATE 1/1/82
SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK N.Y. 10036

DWG **P-4**



ELLIS ISLAND REFERENCE
MAIN BUILDING

EXISTING CONDITIONS

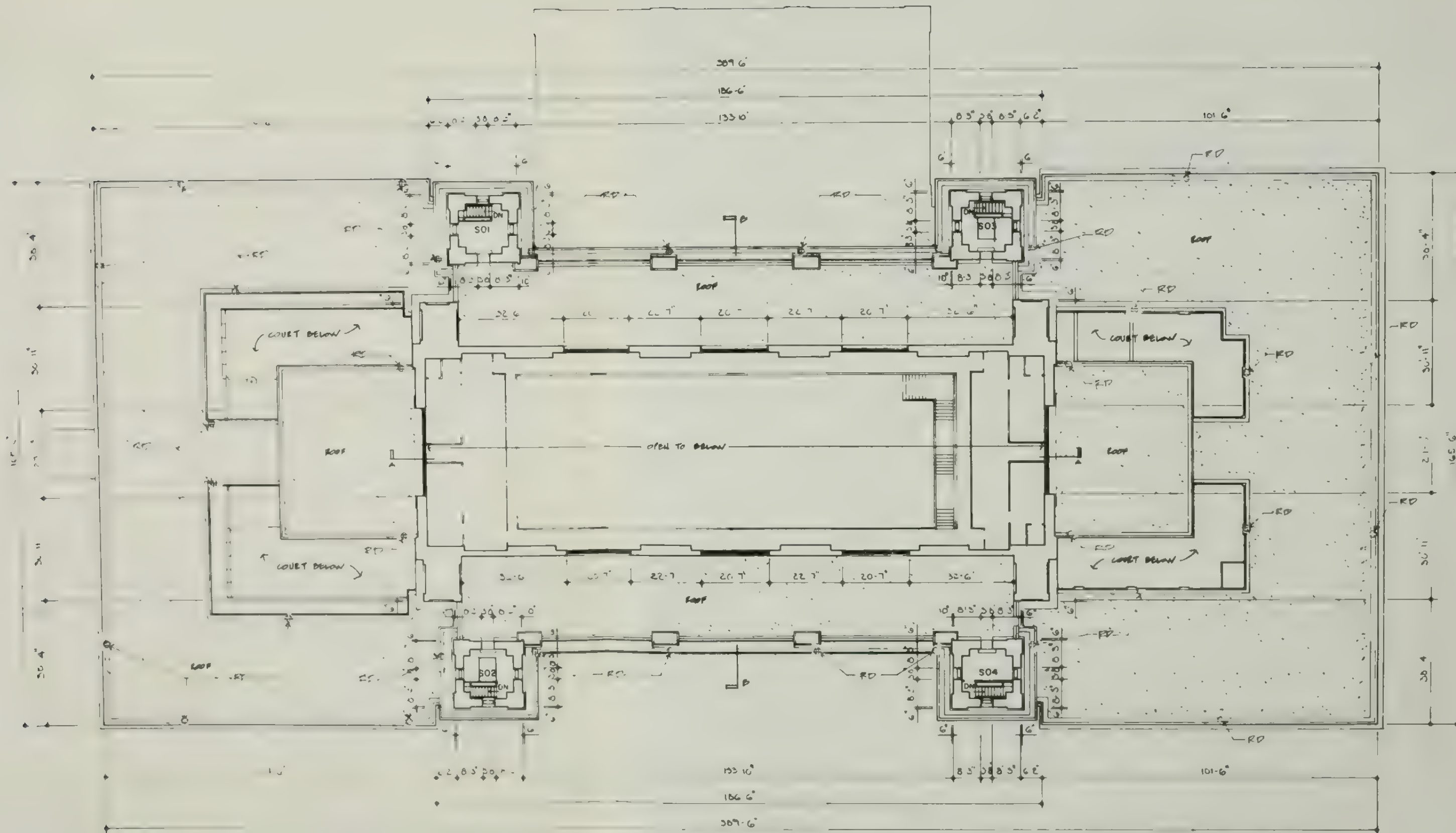
DATE: 11/23/82

DWG.

P-5

SYSKA & HENNESSY
MECHANICAL - ELECTRICAL
ENGINEERS

11 WEST 42ND STREET
NEW YORK, N.Y. 10036



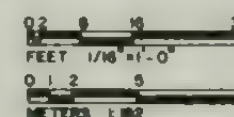
ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
BEYER BLINDER BELLE
ANDERSON NOTTER FINEGOLD INC.

356 | 26.002 / 61 of 70
 DSC | JUL 88

CLERESTORY PLAN

SCALE



EXISTING CONDITIONS

DATE: 11/23/67

DW5.

P-5

SYSKA & HENNESSY
 MECHANICAL - ELECTRICAL
 ENGINEERS

11 WEST 42ND STREET
 NEW YORK, N.Y. 10036

6. Elevators

a. History¹

Boring & Tilton prepared plans and specifications for a freight elevator in the spring of 1899. It was installed in the stairwell of the northeast tower in April, 1901. Supplied and installed by the Otis Elevator Company, it was designed to lift a maximum load of 2500 pounds at a rate of 125 feet per minute. The original specifications have been lost, but it appears to have been powered by a geared drum type machine.

The car was described by the elevator inspector as being "built with the lower portion of bronzed grill work, 1-1/2" strips, 5/8" mesh, the upper portion of 3/8" flat strips on edge except where they cross, and on 2-1/8" centers." Both the elevator and the hoistway enclosure were bronzed and varnished.

When the third floor was added to the special inquiry section on the west wing, funds were included for the installation of a passenger elevator in the southwest tower. According to the Commissioner of Immigration,

"witnesses, applicants for interviews, visitors and employees are constantly passing up and down. When the board rooms are established on

¹Based in part on Building Conservation Technology/The Ehrenkrantz Group, "Historic Structure Report; Ellis Island", prepared for the National Park Service, 1978, p. 75 and U.S. Department of the Interior, National Park Service, Denver Service Center, "Historic Structure Report; Ellis Island; Historical Data", by Harlan D. Unrau, 1981, pp. 94-96, 140-141, 189-190, and 193.

the third floor, it will involve a climb of eight flights of steps, much confusion and considerable hardship...the only elevator in this building is at a remote part thereof and is intended for the carrying of freight".

Little has been recorded about the construction of this elevator, other than the fact that a twenty horsepower electric motor powered the lift and work was completed in December of 1910. A few historic plans exist, primarily depicting the elevator enclosure, and details (exhibits 1 and 2). The elevator and hoistway, like those of the original elevator, were bronzed and varnished.

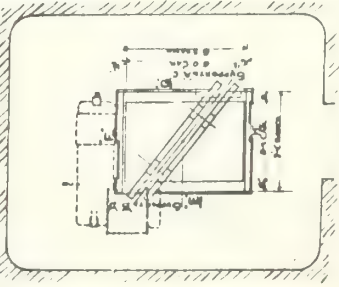
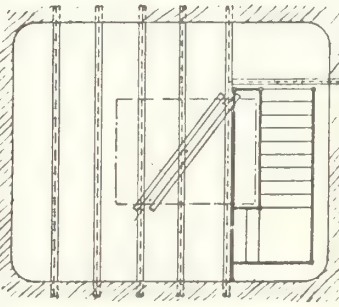
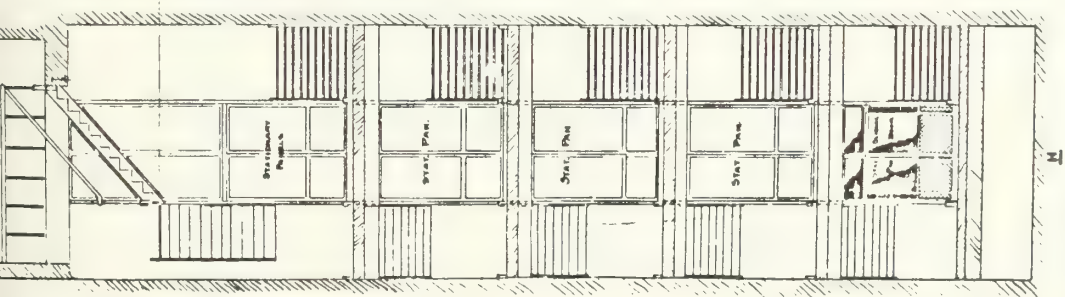
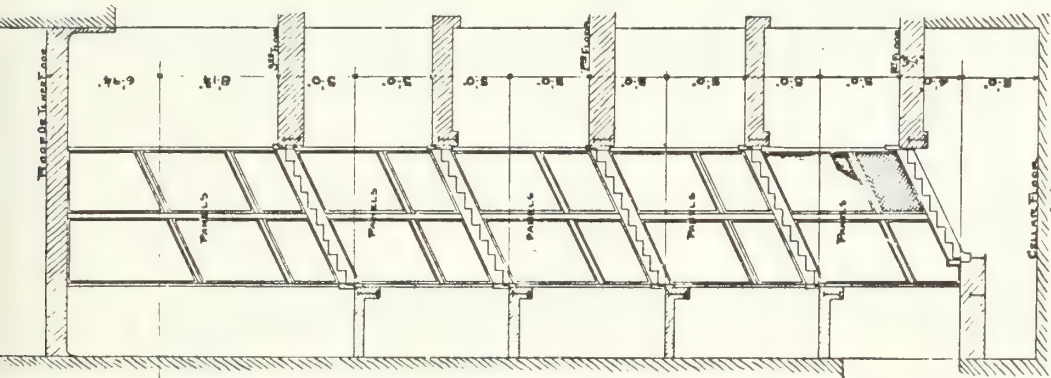
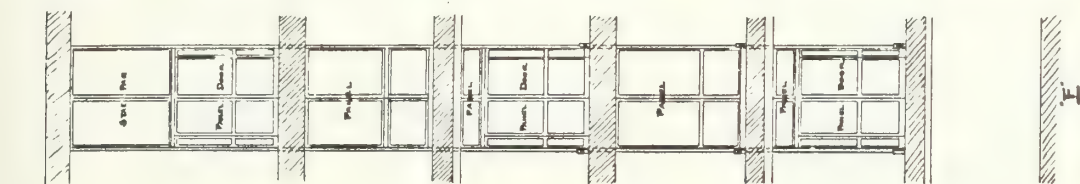
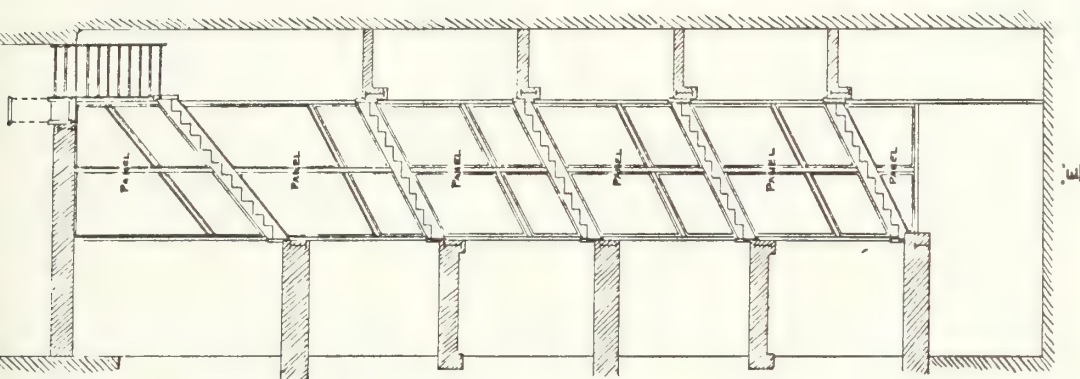
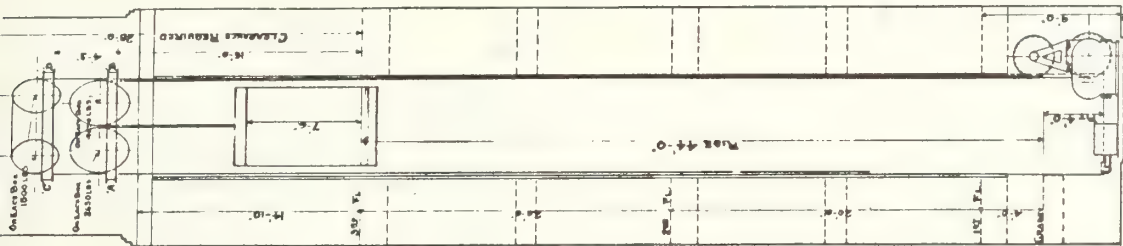
In 1931 both of these elevators were repaired. The following work was ordered in the specifications:

Elevator 4 (Southwest Tower)

Rebabbitt drum shaft bearings top and bottom
Rebabbitt car shoes
Overhaul control board and check for sudden starting
Renew end thrust bearing
Overhaul governor and safety
Repair gate controls
Reline brakes

Elevator 5 (Northeast Tower)

Renew motor bearings
Furnish and install Lutz stabilizer to remove lost motion in worm and gears
Cut hole in floor, with sleeve and plate to permit use of safety wrench
Overhaul entire control board
True-up rails



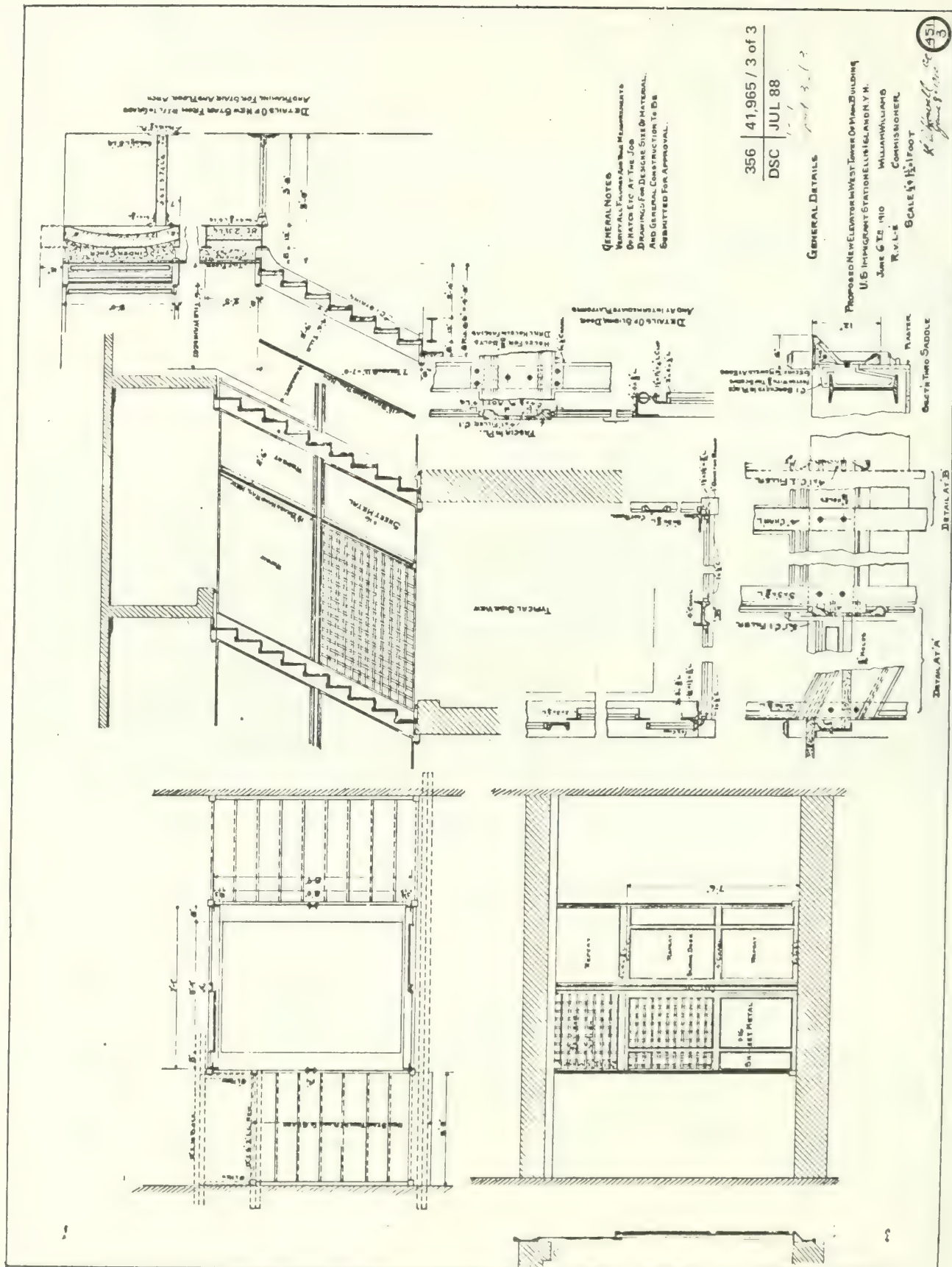
SCALE DRAWING
OF ELEVATOR ENCLOSURE

PROPOSED NEW ELEVATOR IN WEST TOWER OF MAIN BLDG.
U.S. IMMIGRANT STATION ELLISLAND N.Y.N.
JUNE 6 IS 1910 WILLIAM WALLACE
N.Y.C. COMMISSIONER

356 | 41965 / 2 of 3
DSC | JUL 88

GENERAL NOTES
VERIFY ALL FIGURES AND TAKE ALL NECESSARY
MEASUREMENTS AT THE JOB
FOR PRESENT ARRANGEMENT AND NECESSARY
ALTERATIONS SEE DRAWING N-1.
FOR GENERAL DETAILS SEE DRAWING N-3

451
2



Install new collars on automatic stop
Reline brake
Overhaul car safety
Rebabbitt main and auxiliary bearings
Install new locks on all doors
Overhaul car switch

In addition, two other elevators in the main building were also repaired under the same contract: elevator 6 which was a self-service car at the east end and elevator 7 which was a one-story freight car between the basement and the first floor of the east end.

In 1934 the southwest and northeast tower elevators were repaired. A new motor was installed in the former, reportedly a "compound-wound, 220 volts, direct current, two-speed type" and capable of lifting an average load of 2500 pounds at a speed of 250 feet per minute. Work on the northeast elevator "included the installation of a new control board complete with potential reversing, fast speed, accelerating and stopping switches, and a door contact sequence relay".

b. Description²

Northeast Tower Elevator (S03)

The elevator in the northeast tower served the ground level (rear), and the first, second, and third floors

²The material in this section is from "Condition of the Existing Elevators", a memorandum by Syska & Hennessy, Inc., Engineers, dated October 19, 1983.

(front). A geared, drum type machine is located adjacent to the elevator pit. The manufacturer's name is not discernible but it is probably an Otis machine. The motor is of a square configuration, apparently two pole D.C. No motor identification exists. This may be the original machine. The capacity and speed of this elevator could not be determined. Control was by car switch (Otis). The number of speed steps could not be determined.

The rigging consisted of two ropes to the elevator via overhead sheaves, and two ropes to the counterweight via overhead sheaves, 1:1 roping.

The elevator cab is metal lattice construction with a diagonal pattern up to 36 inches high and a rectilinear lattice above 36 inches and in the dome. Both ends of the cab have collapsible gates covering the full cab width. They appear to have gate switches.

The hoistway enclosure is metal lattice construction in the same pattern as the cab. Thirty-six inch wide sliding lattice doors are located at each landing, for the three front entrances and the single rear entrance. They have mechanical bar locks and auxiliary door contacts. The hoistway is surrounded by a staircase. The overhead sheave space also serves as an access to the building roof from the surrounding staircase.

Southwest Tower Elevator (S02)

The elevator in the southwest tower served the ground level (rear), first, second, and third floors (front). A geared, drum type machine is located adjacent to the elevator pit (Suplee Elevator Company). The motor is 20 horsepower, by Imperial. This is most likely the motor

which was installed in 1934. The capacity and speed of this elevator could not be determined, but the historic evidence indicates that the motor was a "compound-wound 220 volts, direct-current, two-speed type" with a load capacity of 2500 pounds and a speed of 250 feet per minute. Control was by car switch.

Two ropes went to the elevator via the overhead sheaves and two ropes to the counterweight via the overhead sheaves, 1:1 roping.

The elevator cab is metal lattice construction with a diagonal pattern up to about 36 inches high and a rectilinear lattice above 36 inches and in the dome. An historic drawing (exhibit 2) indicates that the lower diagonal lattice was originally intended to be sheet metal. Two 36 inch opening collapsible gates appear to have gate switches.

The hoistway enclosure is metal lattice construction in the same pattern as the cab. Thirty-six inch wide sliding lattice doors are located at each landing; for the three front entrances and the single rear entrance. They have mechanical bar locks and auxiliary door contacts. The hoistway is surrounded by a staircase. The overhead sheave space also serves as an access to the building roof from the surrounding staircase.

Other Elevators

Two elevators are located in the east wing of the main building. One is located near the east entrance while the other is in the northeast corner of the core (142 on first floor plan). Both of these elevators are basement drum type installations with two ropes to the elevator and two ropes to the counterweight, via overhead shelves.

The elevator near the entrance served the basement and first floor. The elevator and counterweight are still suspended from the ropes. The machine has a square motor indicating that it was probably powered by direct current. The gearing is worm and gear plus spur gears. The hoistway itself is enclosed with walls and has swing type doors. The doors are locked and nailed shut rendering the elevator car and overhead sheave space inaccessible.

The other elevator in the east wing served all floors. The ropes of this elevator have been cut. The car and counterweight are resting in the pit at basement level. A close observation of the machine could not be made. The hoistway is enclosed with walls.

c. Existing Conditions³

Northeast Tower Elevator

This elevator has been abandoned for many years, possibly since 1954. The elevator ropes have been cut and the car and counterweight are both resting on the buffers.

The elevator machine including the drum, brake and motor are very deeply rusted. There appears to be green copper oxide in the motor winding area. All of the ferrous metal control components are also badly rusted. There is wet dirt, rubble, and leaves in the pit and the machine area. The cab is below the bottom (rear, ground level) landing, where the door to the yard was open. The gates are rusted to the extent that access to the cab is not

³Ibid.

possible. The cab floor is covered with damp dirt, rubble, and leaves. The lattice is also rusted. The condition of the counterweight cannot be determined.

The lower sections of the guide rails cannot be observed, but they are probably badly rusted. The hoistway enclosure above the first floor level is not badly rusted and appears to be sound. There is some rusting of the sheave beams above the hoistway. The sheaves are badly worn and rusted; their bearings are probably rusted.

Southwest Tower Elevator

The elevator has been abandoned for many years, possibly since 1954. The elevator ropes have been cut and the car and the counterweight are both resting on the buffers.

The elevator machine including the drum, brake and motor are badly rusted as is all ferrous metal of the controls. There is damp dirt, rubble, and leaves in the pit and machine area. The first floor landing sill appears to be supported at least in part by temporary wood shoring. The cab is below the bottom (rear, ground level) landing. The cab floor is covered with damp dirt, rubble and leaves and visible ferrous metal is rusted. The condition of the counterweight cannot be observed, but it is probably deeply rusted. The hoistway enclosure above the first floor level is slightly rusted and appears to be sound. There is some rusting of the sheave beams above the hoistway. The sheaves are badly worn and rusted; their bearings are probably rusted.

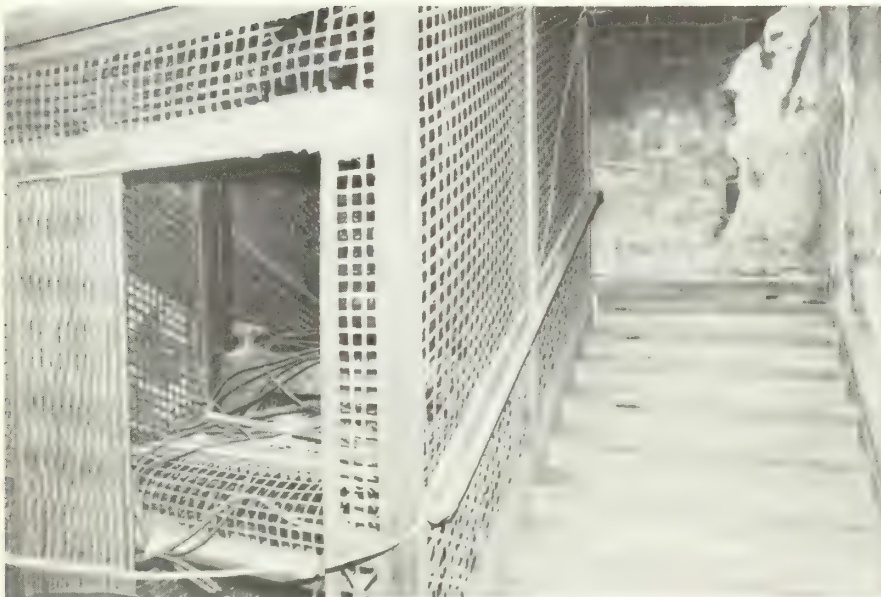
Other Existing Elevators

The equipment in the two east wing elevators has obviously been abandoned for many years. The machines are heavily rusted. The southern elevator, still suspended, is in unsafe condition and is a potential hazard.

Elevators



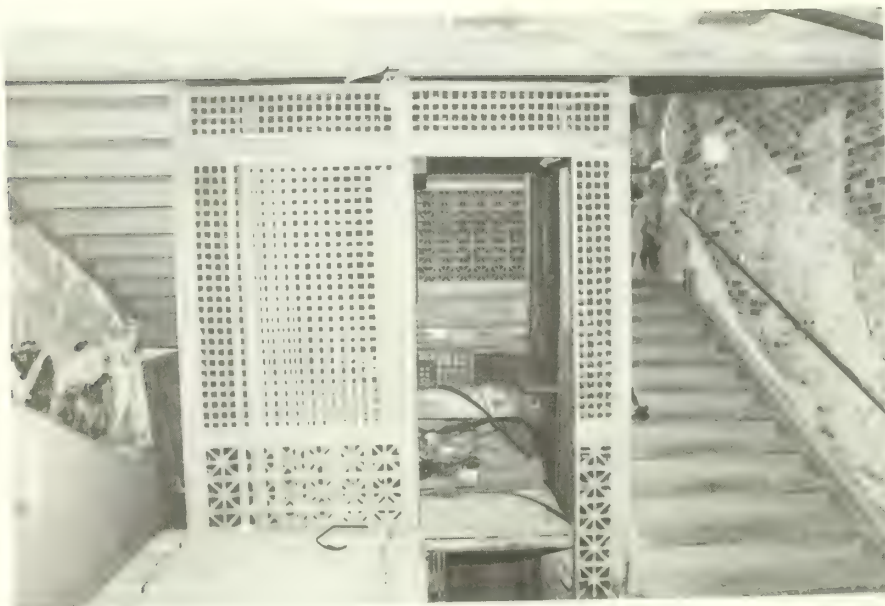
1. Northeast tower elevator, view south from ground level entrance.



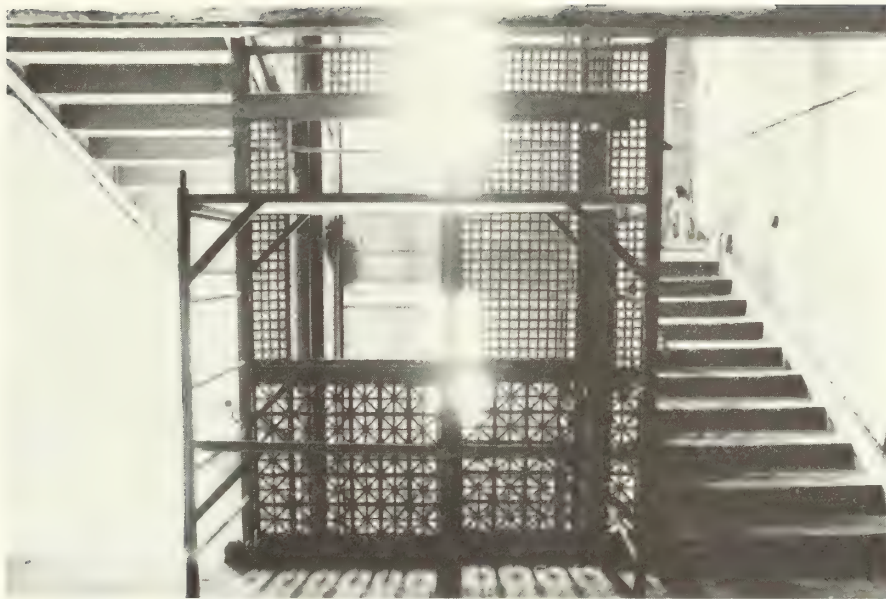
2. Northeast tower elevator, first floor landing, view north.



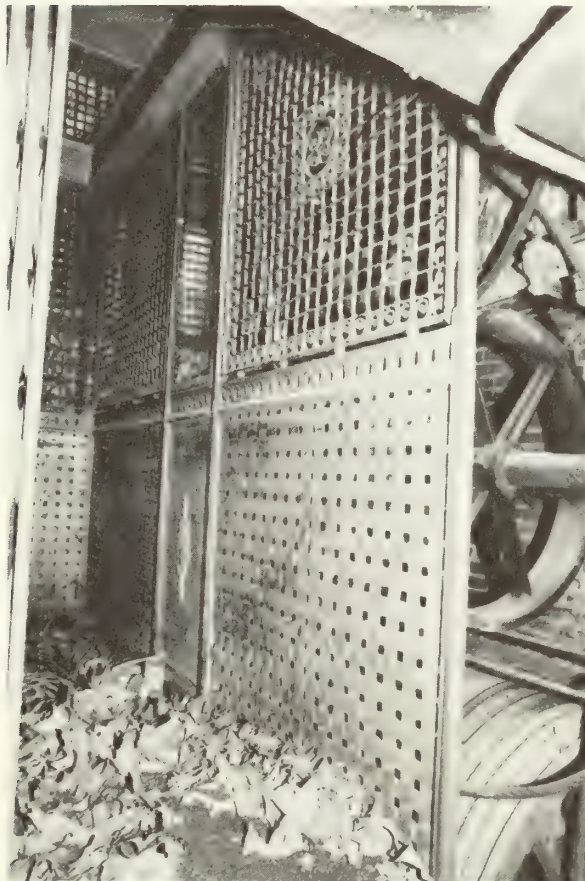
3. Northeast tower elevator (S03), view north.



4. Southwest tower elevator (S02), first floor landing, view south.



5. Southwest tower elevator (S02), second floor landing.



6. Southwest tower elevator, cab and machinery in basement.

7. Structural System

The structure of the main building is a riveted steel frame with exterior bearing masonry walls. The foundations are footings bearing on either natural soil or timber piles. The steel columns rest upon base plates and/or steel grillages. Floors and flat roofs are structural clay tile flat arches with concrete fill carried on steel framing. The registry room is framed in steel and enclosed at the clerestory level by non load-bearing masonry. The registry room roof is supported by ten fabricated steel Fink trusses carried on columns and bridged at five points by transverse trussed girders which terminate in the masonry gable walls. The four stair towers are load-bearing masonry construction.

Structural steel fireproofing is provided by brick masonry encasements at the columns and structural clay tile or suspended plaster at the beams and lintels.¹

The railroad ticket office is a one-story structure with a crawl space. The roof structure consists of hollow clay tiles spanning between steel "T" shaped sub-purlins, supported on channel purlins, which in turn are supported on Howe trusses. There are five lines of trusses running east-west. These are in three spans supported on four lines of columns. The exterior walls generally do not support the roof structure. The columns are either round cast-iron or built-up from steel angles. They rest on stiffened cast-iron base plates on granite caps on concrete spread

¹Based on Building Conservation Technology/The Ehrenkrantz Group, "Historic Structure Report; Ellis Island", prepared by Building Conservation Technology/The Ehrenkrantz Group for the National Park Service, 1978, p. 59.

footings. The floor structure consists of hollow clay tile with steel tie rods spanning between steel "I" filler beams supported by girders of double "I" beams. Some girders are supported by the columns, while others are supported by intermediate piers. The exterior walls are solid brick with a large expanse of windows. The foundation walls are solid brick. The crawl space has a rat slab for part of its area; the remaining area is unpaved. The west wall is common with the vestibule that leads from the main building to the baggage and dormitory building. The only major structural changes in the main building occurred in conjunction with new construction (i.e.: the railroad ticket office and third floor additions).²

Observations and Methodology

In 1978 a structural investigation of the main building was conducted by Irwin Cantor, Structural Engineers and a number of their recommendations were implemented during subsequent repair work. In 1983 Robert Silman Associates, P.C. made a structural survey which reviewed the work of the previous firm and looked at additional areas such as the railroad ticket office. The recent survey indicated that both the main building and the ticket office basically remain in good condition. An additional purpose of the Silman study was to investigate not only the condition of the structure of the railroad ticket office, but also to ascertain the composition of the structural systems and determine the adequacy of these systems for the proposed use of the building.

²This discussion of the railroad ticket office as well as the remainder of this chapter are based on Robert Silman Associates, "Structural Investigation of the Main Building and Ticket Office Building at Ellis Island", February 1984. On file in the office of BBB/ANF in New York.

The structural components selected for investigation included:

- footings and foundation walls
- columns
- floor structure
- stairs
- vaulted ceiling
- roof framing systems

Although the scope included the above items, the investigation of the main building was supplementary to the original Cantor study in which a more thorough survey was conducted and an analysis of the existing structure undertaken to establish the allowable load on the structure. In addition, brick fireproofing was removed on additional casement columns because of uncertainty that all seriously corroded columns had been found.

The railroad ticket office required a more thorough investigation. Structural elements were uncovered and measured to ascertain both condition and size of members. After the structural systems were established an analysis was done to determine their load capacities, which members would be overstressed by the intended use, and recommendations for upgrading the systems.

The specific techniques used in the physical survey were visual inspection of the buildings, removal of plaster and/or masonry on selected members, visual inspection of members, and measurement of members with steel tape, calipers and micrometer. On members which had delaminating rust the expanded corrosion was removed with a hammer down to the sound metal surface before measuring.

a. Main Building

The foundation walls of the main building were examined from both sides. No significant cracks were found. The rubble concrete wall footings noted in the 1978 report were inspected at the stair tower walls. Areas of cement coating were missing and very little cement binder was evident.

The 1978 report indicated that various basement columns had been stripped of brick fireproofing and the thicknesses of the legs of the eight angles making up the columns had been measured. Based on this information the report recommended that all basement columns with their footings below water level be completely stripped for investigation. The subsequent work on the columns, during the structural rehabilitation phase, involved removal of masonry protection above and below the basement slab down to the tops of footings and reinforcing the columns with plates. A total of 38 columns in the east and west wings were treated in this manner.

The Silman study inspected all of the 169 basement columns. No problems were found with the fireproofing of the 38 columns mentioned above. Of the remainder, 63 column fireproofings had cracks. Six of these exhibited major cracks, 27 had hairline cracks, and 30 had open cracks of about 1/16" thickness. Eleven columns, the six with large cracks and five with moderate cracks were stripped of their lower 3'-0" of fireproofing. Rust was broken off one or more of the column angle legs with a hammer and the bare steel thickness measured with a micrometer. Five columns had experienced a serious loss of steel, ranging from 32% to 58% of their thickness.

This sampling indicates that it is not possible to judge the severity of the corrosion from the size of the crack in the brickwork. Some columns that do not have any cracks in the fireproofing may have serious rust if a gap exists between the face of the column and the brick enclosure. Consequently, it is likely that columns other than those recently reinforced will need additional investigation.

The sprayed-on fireproofing on the underside of the plate-reinforced first floor beams was inspected and found to be intact. The only problem noted was that some plates had begun to rust and the rust color was showing through the fireproofing.

Cracks were found in two north-south partitions in first floor rooms located along the south wall of the east wing. These cracks rise diagonally from the floor to the ceiling at the exterior wall. The magnitude of the cracks and their orientation indicates a settlement of the south exterior wall. However, the cracks are old and do not seem to have increased recently which suggests that the settlement has stopped. No cracks were found in the exterior foundation wall and no apparent foundation settlement has occurred in the main building.

Miscellaneous cracks in the third floor slab were found at the east and west end of the registry room balcony. All of these cracks can be attributed to expansion and contraction of the building and do not pose a structural problem. However, if it is decided to refinish the floor to conceal the cracks a method must be used to allow for movement of the building without cracking the finish.

Certain recommendations in the 1978 report have not been followed. This includes: the wirebrush cleaning, prime coating and painting of exposed steel beams and stairs at all levels and the reinforcement of beams at the landings of the tower stairs. Serious deterioration of these beams had been caused by water from roof rain leaders.

The exterior walls are generally in good condition. Cracks in the south and east exterior facades were repaired with sealant. Mortar joints in brick and stone masonry have been selectively repointed. Vertical expansion joints in the clerestory wall at the columns have been installed during new brick repair work and are in good condition.

Spalled and broken limestone work was repaired but has failed in some areas. Steel anchors for window screens were not all cut back, sealed and the stonework patched.

The exterior brick bearing walls at the east and west ends of the registry room roof are deteriorating on the inside face. This can be seen from both the registry room and in the attic space. Brick surfaces are spalling and the mortar joints are a loose sand consistency. It is in a dynamic state of deterioration caused by moisture, either penetration of rainwater through the wall or condensation on the inside face.

The east exterior wall cracks were satisfactorily repaired with sealant on the exterior face. However, they were not repaired on the interior face, although the interior cracks were mentioned in the 1978 report. At the present time a slight diagonal crack appears on the inside face at the north end of the east wall on the second floor. Much larger cracks, with similar configurations appear on the third floor at north and south ends.

The cracks are generally vertical in orientation and have been caused by expansion and construction of the exterior wall (photos 1 and 2).

On the interior face of the east and west walls of the registry room blocks are missing in the arch over the large windows.

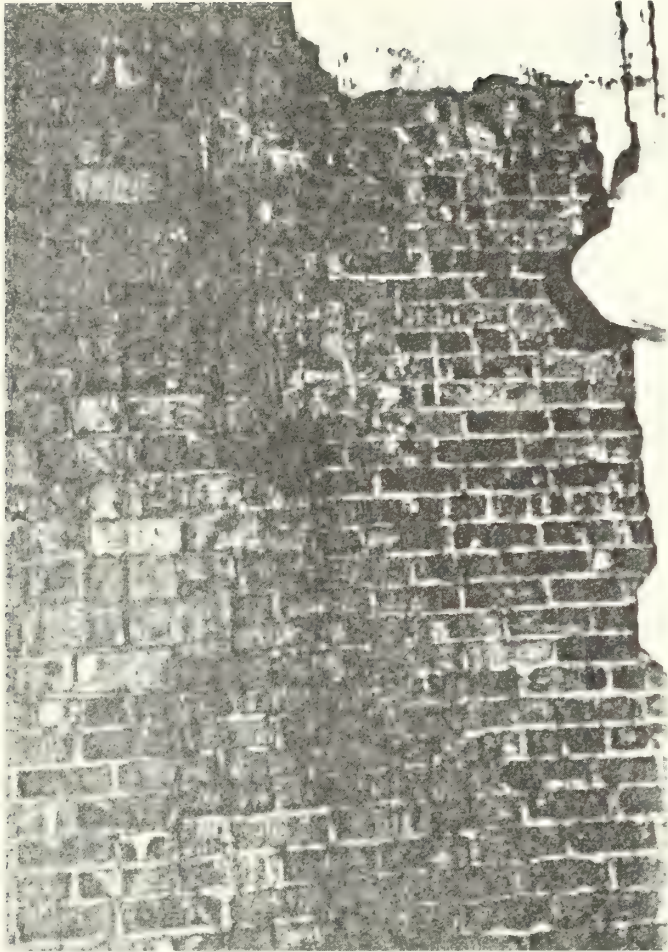
The Guastavino tile vaulted ceiling is still in excellent condition. Both upper and lower surfaces were inspected and no cracks were found. Some tiles are missing at the clerestory windows and some discoloration has occurred due to water staining.

b. Railroad Ticket Office

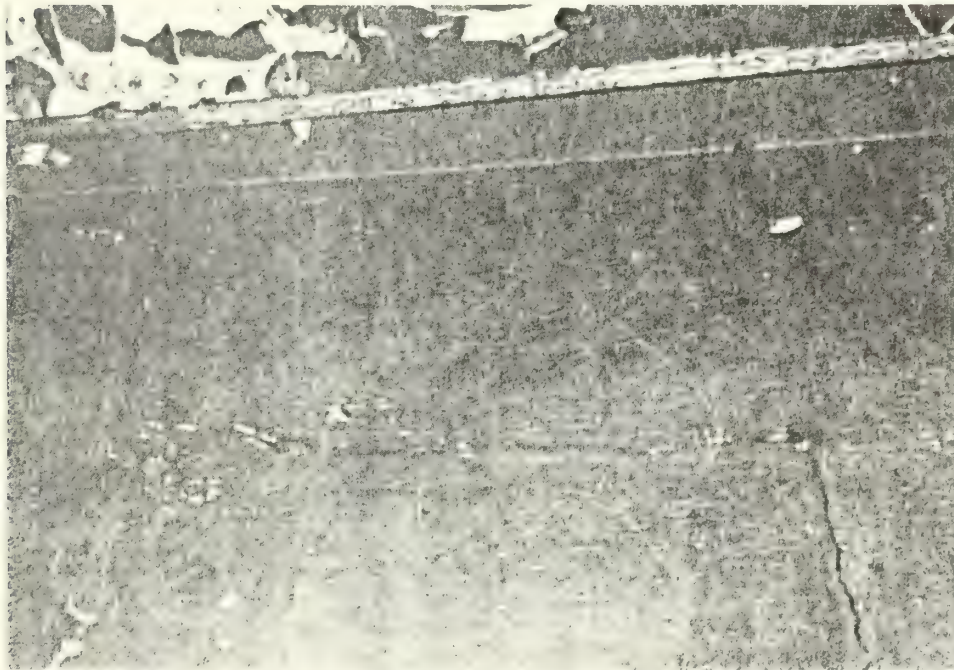
The foundation walls of the railroad ticket office were examined both at the exterior and inside the crawl space and no signs of excess or differential settlement were found. These walls are generally in good condition.

The column footings were partially visible above a rat slab in the crawl space. Utilizing the allowable bearing value established in the 1978 report of 3 tons per square foot it was found that all the column footings are more than adequate for the column loads. The intermediate piers supporting first floor framing also showed no signs of settlement. All footings and piers are in good condition (photo 3).

Columns in the railroad ticket office consist of three types. Those at the north wall are double angle steel. Those at the south wall are quadrangle angle steel in a cruciform configuration. Those at the east and west walls and all the interior columns are round cast-iron columns.



1. Interior crack, east wall, north end, third floor, main building



2. Interior crack, east wall, south end, third floor, main building.

There was no serious corrosion except for the columns at the north wall. The interior columns at the ground floor were measured at one location by removing a portion of the fireproofing and a hole was drilled in the column to establish the wall thickness. The stiffened base plates were visible in the crawl space below. All of the columns were checked for the applied loads and except for two columns, were found adequate. This check was made utilizing allowable stress versus L/r tables proportioned for basic allowable stresses of the material involved utilizing "Ketchum 1918".

Two double angle columns at the north wall support a truss which is not directly connected to the exterior wall. These columns are seriously corroded with an approximate loss of steel of 36%. In addition, the columns are bowed about 1/2-inch. This is considered a structural failure. A discussion of the probable causes of this failure appears later in this component of the historic structure report.

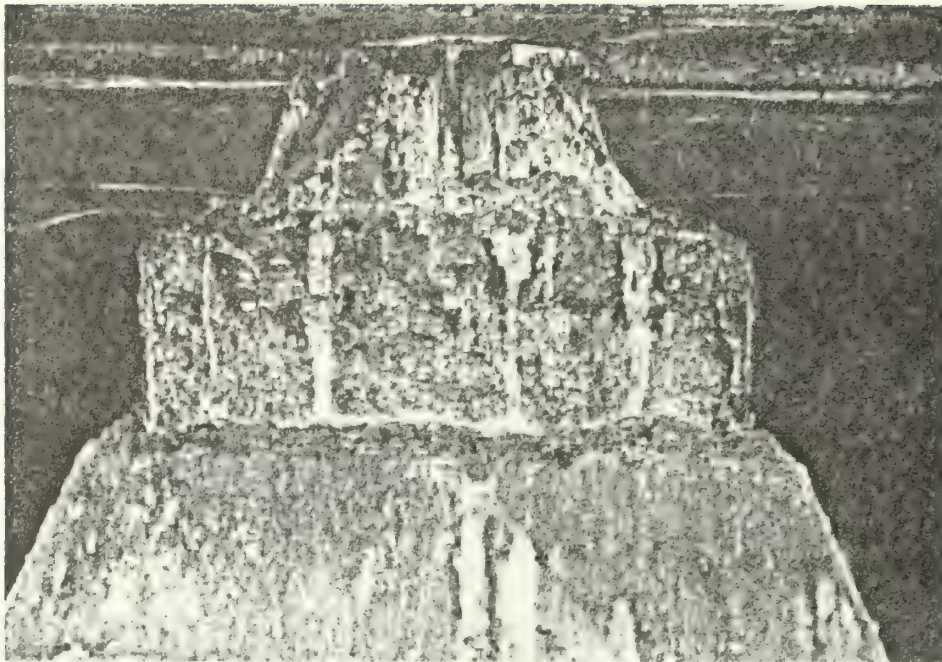
The floor structure of the railroad ticket office was investigated by visual inspection and limited probing. One of the probes was taken near where a roof leader had spilled water onto the floor.

The underside of the clay tile slab has exhibited no cracks. There are hairline cracks in the floor tile on the top surface which occur over the filler beams. These cracks are due to deflection of the slabs resulting from long-term creep and are not structurally detrimental. It was noticed that 3/4-inch diameter steel post tensioning rods in the tile slab were placed in the upper hollow core of the clay tiles rather than in the lower core as is usual. The

consequence of this is a reduction in the resisting moment of the system against applied loads. However, upon checking the design, it is found that the system is adequate to take the loads for the intended occupancy, due no doubt to the very high safety factor involved in this type of construction (F.S.=7). All floor tiles were found to be in good condition. The steel beams are hidden below the terracotta clay tiles throughout the underside of the floor. In areas where the bottom flanges of the beams are exposed due to spalling or mechanical pipe hanger connections, the steel beams are in fair condition. Some surface rust occurs and moderate rust delamination of a few beams is noticeable, but not in sufficient amounts to reduce the steel area significantly. The fill beams were checked and found to be adequate to support all applied loads in their non-deteriorated state. The 9-inch channels at the edge of the floor were also found to be understressed. Most girders were found to be adequate.

The roof framing of the railroad ticket office had been exposed since 1924 when a suspended ceiling was removed from this area. Its condition was investigated and most members measured to determine section properties. Although widespread damage has occurred in the clay tile deck most corrosion of the structural steel trusses and purlins has occurred in the valleys along the north wall and the west wall (photos 4, 5, and 6).

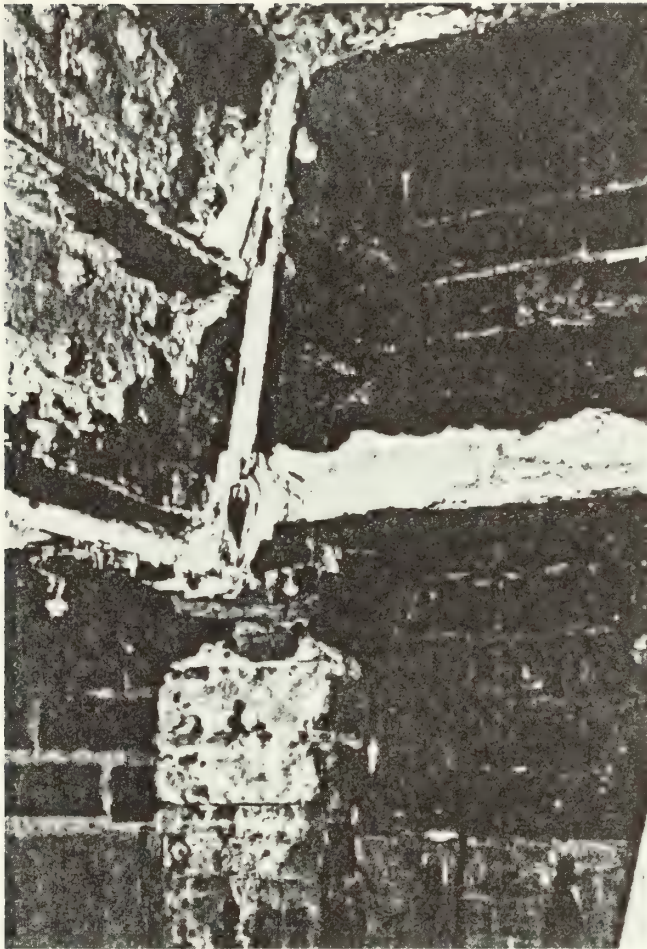
The 1'-0" x 2'-0" x 3-1/2" structural clay roof deck tiles have suffered water damage with the plaster coating falling away in approximately 25% of the roof area. In addition, the under surface of some tiles has spalled (photos 7 and 8). Other tiles are so badly deteriorated that they have fallen away (photo 9).



3. Footing, cap, and base plate, railroad ticket office.



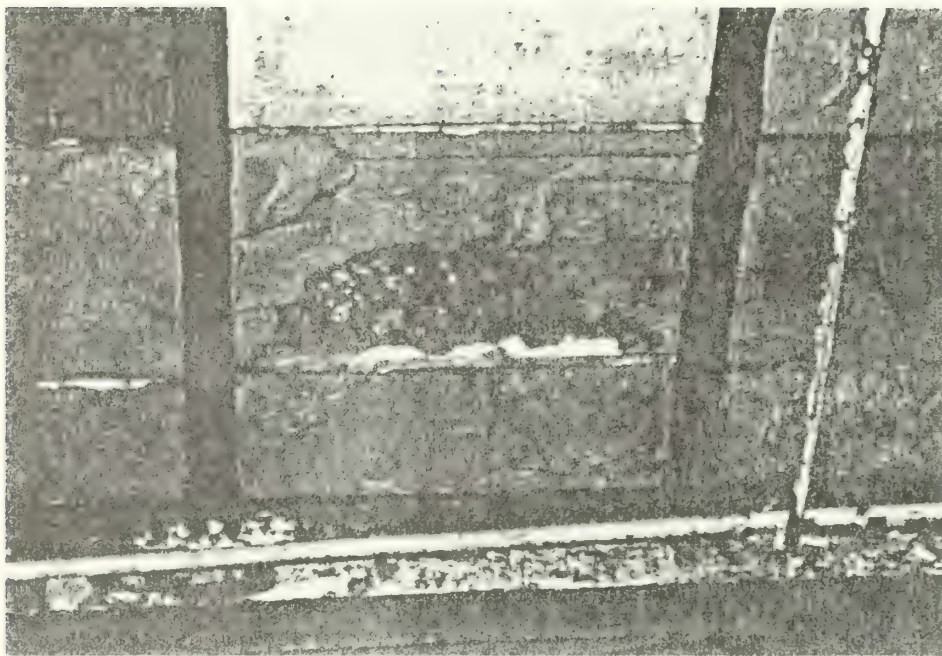
4. Steel deterioration at Column E-3, railroad ticket office.



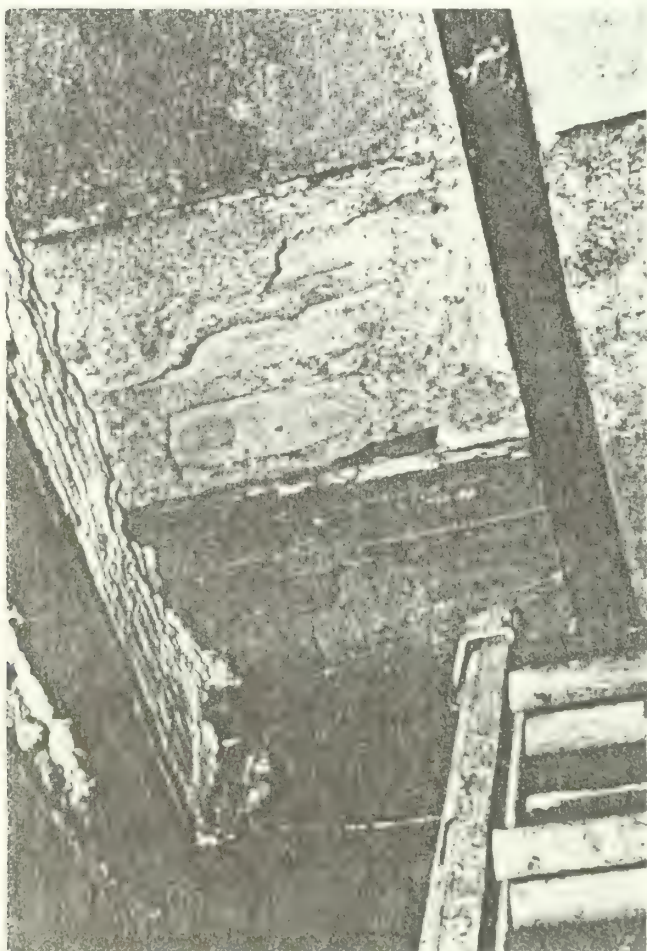
5. Steel deterioration at column C-1, railroad ticket office.



6. Roof steel deterioration, railroad ticket office.



7. Clay tile deterioration, railroad ticket office.



8. Clay tile deterioration, railroad ticket office.

The tee sub-purlins have deteriorated. However, their sub-purlins are understressed and it has been determined that they would perform satisfactorily if their thickness were reduced to no less than .15 inch.

The roof purlins span between panel points of the main trusses. They are doubled at the ridge, valley and edges of the skylights. Single purlins located in the valleys of the saw-toothed roof are overstressed without considering deterioration according to the ANSI code. The channel sections diagonally spanning from south wall columns to ridge point at the main building are also overstressed at snowdrift build-up areas against the main building. When the structure for this building was originally designed codes did not require this and it was not standard practice for engineers to design roofs with an increased load capacity to account for snow build-up. Purlins in general have noticeably deflected along both axes under dead load only. Any reinforcement of these channels must take this bowed condition into account.

Roof purlin corrosion usually occurs at the low points of the roof. The loss of steel for the most part has occurred at the support points of the purlins in a zone where shearing stresses govern. Reductions in steel areas of the flanges can be tolerated in these areas and since shear is not a problem for the purlins, losses in the web can be tolerated. However, roof purlins with steel loss at mid-span at the west wall will need remedial work.

Some new skylight beams installed in 1981 were observed to be deteriorated at the top surface between glazing blocks (photo 10).



9. Probe hole No. 2, railroad ticket office.



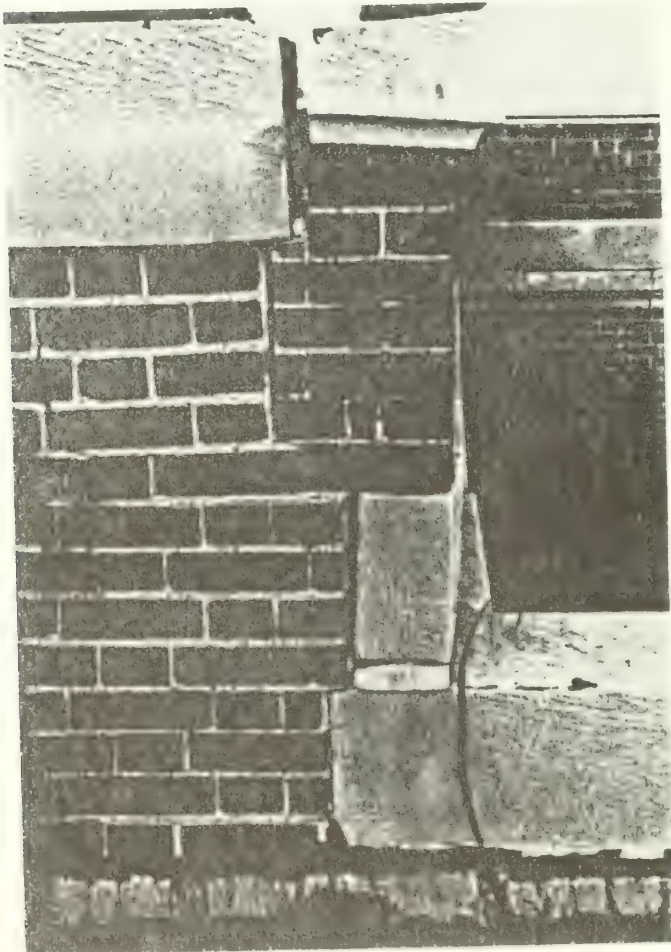
10. Deterioration of skylight frame, railroad ticket office.

All exterior walls of the railroad ticket office were inspected for signs of distress including cracks and distortion. All walls are in satisfactory condition except the north and west walls. The north wall has bowed outward a maximum 3-1/2-inches on a horizontal line at the level of the lintels above the windows. The wall is braced laterally at the roof gable and at the first floor and there is no direct connection to the truss. The lintels are supported by columns, divorced from the main structure of the building, which have tilted outward with the wall. When the wall moved outward there was a consequent shortening of the height of the wall which put additional load on the roof through the top attachments.

The parapet above the west wall, at the juncture between the ticket office and the vestibule of the baggage and dormitory building, has cracked at its north and south ends where it intersects with the east-west parapets (photos 11 and 12). This is due to thermal contraction of the railroad ticket office which lacks an expansion joint between the two buildings. Some deterioration of the wall inside the building under the parapet has occurred due to moisture penetration.



11. Cracked west parapet,
south end, railroad
ticket office.



12. Cracked west parapet,
north end, railroad
ticket office.

D. ARCHITECTURAL TREATMENT OF THE BUILDING

1. Discussion of Use

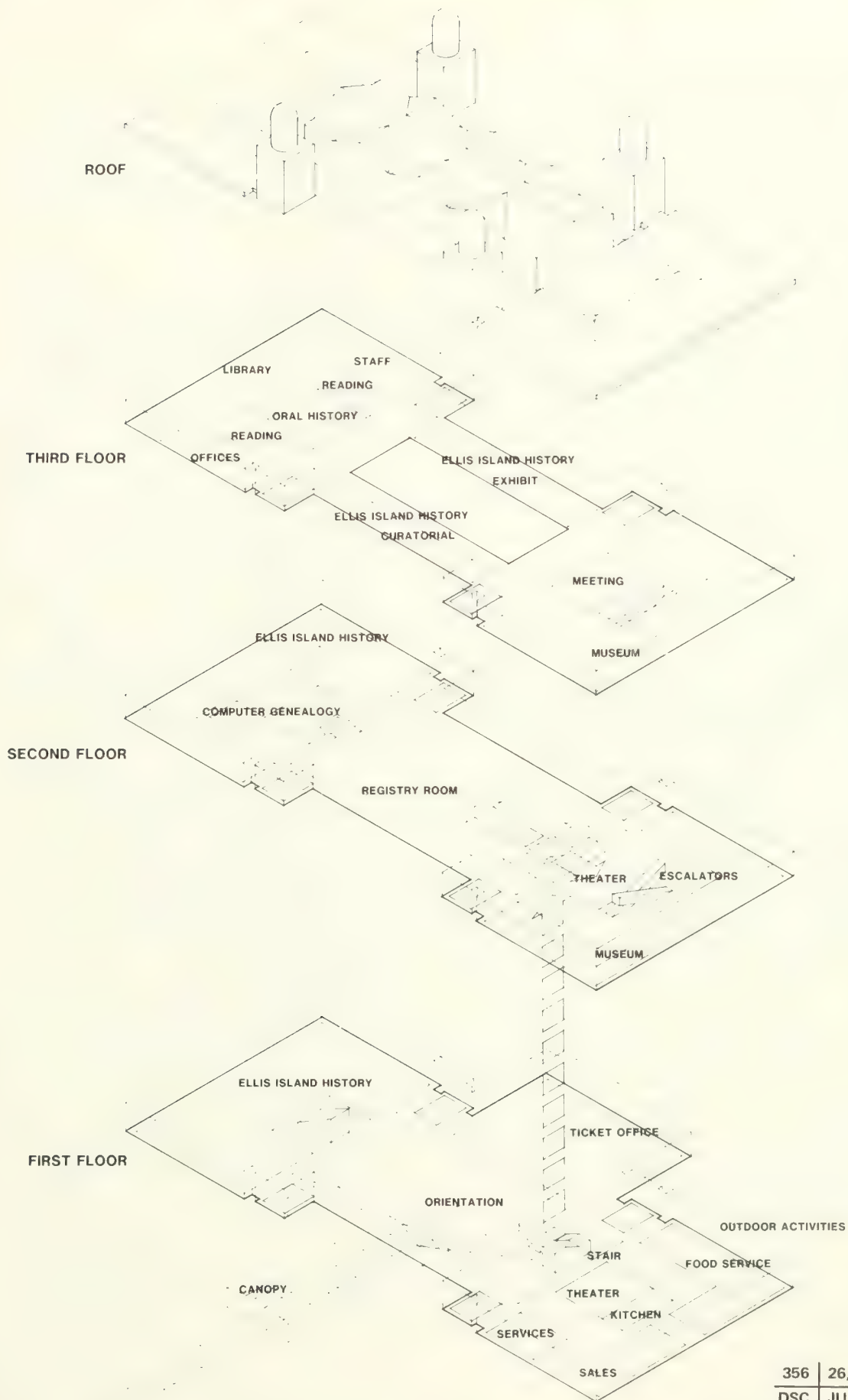
a. The Program

The main building on Ellis Island will be rehabilitated to function as a museum facility. The development of a program for the reuse of the main building has involved the Statue of Liberty - Ellis Island Centennial Commission, the National Park Service, the A/E team, numerous consultants and other interested parties. The opportunities and constraints for creating such a facility were fully considered with each decision being made with respect to historical accuracy, thematic appropriateness and the practicalities of converting such a building to museum use. Modern interpretative techniques as developed and implemented by the National Park Service have played a key role in reuse of parts of the building.¹ Exhibit 1 depicts the schematic layout of the building.

Visitor interpretation of the main building will be expressed in three major themes:

1. Ellis Island Processing Story. This part of the interpretive plan will convey what occurred in the main building and elsewhere on the island. It will rely on existing building fabric and upon new exhibitry to tell the story. The Ellis Island story will be seen throughout the facility but will be concentrated in the baggage room, the registry room, first and second floors of the west wing and in the balcony rooms on the third floor.

¹For more detailed information see U.S. Department of the Interior, National Park Service, Harper's Ferry Center, "Statue of Liberty Ellis Island National Monument, Interpretive Prospectus", January, 1984.



| | |
|-----|-------------------|
| 356 | 26,002 / 62 of 70 |
| DSC | JUL 88 |

ELLIS ISLAND NATIONAL MONUMENT
MAIN BUILDING NEW YORK / NEW JERSEY

ASSOCIATED ARCHITECTS
 BEYER BLINDER BELLE
 ANDERSON NOTTER FINEGOLD INC.

SCHEMATIC LAYOUT

FEBRUARY 1984

2. History of Immigration. This part will provide a perspective on immigration patterns as a global activity. The primary focus will be American immigration history. This theme will be located on the second and third floors of the east wing.

3. American Identity: Melting Pot or Mosaic. This theme will explore the influences and significance of immigration to contemporary life in the United States. This exhibit will be located in the railroad ticket office.

In addition, the program calls for the design of several other museum-related and public service areas. A center for computer genealogy will provide visitors with the opportunity to research information about his or her ancestors who passed through Ellis Island. The computer center will be accommodated on the second floor of the west wing, with installation scheduled for sometime after 1986.

A center for oral history will be equipped to conduct interviews with immigrants and employees who return to visit the island. Facilities for visitors to listen to the oral history collections will be located on the third floor of the west wing.

A library and reading room will also be developed on the third floor of the west wing. It will serve as an archival facility that is open for use by visitors and scholars. A curatorial complex in the same area of the building will include offices, a conservation laboratory, and meeting rooms.

Public services include a food service facility and sales area on the first floor of the east wing and theaters

located in the core areas of the east wing on the first and second floors. Two meeting rooms will be located in the core area of the third floor on the east wing. The basement will be used for storage and shipping areas.

Historic building fabric will be respected in the rehabilitation. It is identified in the historic and architectural components as well as appendices of this historic structure report. Where functional or legal requirements necessitate modifications they will be executed in accordance with the Secretary of the Interior's Standards for Rehabilitation and "36 CFR 800".

b. The Visitor Experience

Visitors to the main building will be encouraged to follow the path used by immigrants during the registration process. They will enter through a new main entrance, proceed through the baggage room and ascend a new stair to the registry room. The stair will be in the location of a stair which existed from 1911-1924.

Visitors will also have the opportunity to plan their own path through the building. Orientation will be provided in both the baggage room and the registry room.

2. Preservation Philosophy

Ellis Island is part of the Statue of Liberty/Ellis Island National Monument and is listed on the National Register of Historic Places. The main building is architecturally and historically the most significant structure on the island. This fact dictates that rehabilitation be conducted with respect for the historic building fabric in strict accordance with the Secretary of

the Interior's Standards for Rehabilitation and "36 CFR 800".

Prior to design work, BBB/ANF conducted a careful analysis of the resource. Four aspects of the building were analyzed in detail:

1. Existing conditions
2. Historic development of existing fabric
3. Historic use
4. Architectural significance

These studies resulted in a much more profound understanding of the historic, cultural and architectural aspects of the building and served as a basis for subsequent design decision-making.

Being fully aware of the philosophical "risks" of selecting a period for restoration, the A/E, in conjunction with the National Park Service, decided that the registry room be presented in its 1918-1924 appearance. The decision took into account a number of factors including the architectural development of the building, historic use, the program for reuse and issues concerning interpretation. Following extensive discussion on this subject over many months this conclusion was finally reached for several reasons:

1. The Guastavino vaulting, a major feature of the registry room, was added to the building in 1918 as one of several rehabilitations of this space subsequent to its original construction. Preserving this ceiling honors an important change over time.

2. 1924 was the final peak period of immigration at the island. By this time, modifications and additions to the original facility which were needed for the facility's immigration function were in their most thoroughly developed form. Immigration sharply declined after passage of the Immigration Act of 1924. Within a few years Ellis Island's mass processing system of immigration was outmoded.

3. Changes which occurred to the registry room after 1924 were minimal. Changes during the subsequent detention and Coast Guard occupation periods include erection of a wooden stair at the east end of the room, partitioning on east and west balconies and several layers of paint.

4. Ample photographic and archival documentation of the space during the immigration period at Ellis provides evidence of its historic appearance beyond any question.

According to the Architectural Significance Survey (see "Existing Condition Survey", Appendix A) the wings of the building are less significant and could be considered zones suitable for rehabilitation including some adaptive use. These areas will be converted into spaces for interpretation, administration, curatorial and public services. The building fabric will be respected in the effort to accommodate some, modern functional requirements. Depending on future interpretive directions, certain historic rooms in the wings for which there is adequate documentary and photographic evidence may be restored.

Visitorship is expected to be similar in count to the number of immigrants during the peak years of immigration (5,000/day). Consequently, it will be necessary to add new features and recreate certain architectural features which

are no longer extant. In general, recreated elements will be evocative of the originals rather than replicas in order to prevent confusion regarding what is authentic or new.

3. Design: Issues & Current Developments

The rehabilitation of the main building presents a challenge to designers. Accurate historic and architectural investigation and documentation of the building is a fundamental part of this effort. Numerous technical studies have been conducted by the A/E team in the last year. This information on the history and existing conditions has been presented in the previous historical and architectural data components of this report.

In addition, recent programmatic decisions have affected the design of the main building. An appropriate level of intervention to the building fabric has been identified considering both the historic and architectural context and contemporary use needs and preservation practice. The current design proposals are presented in the preliminary design drawings (see exhibits PD-1 - PD8). Following is a discussion of the major design issues in different locations in the building.

a. Exterior

Alterations to the exterior will have a minimal visual impact on the historic appearance of the building. A conservation program is being developed for the exterior which addresses the cause and effects of deterioration. Cosmetic treatment of problem areas must be preceded by repairs to the roofs, gutters, flashing and downspouts. Once the building is made watertight, the program of

ARCHITECTS

BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD

80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

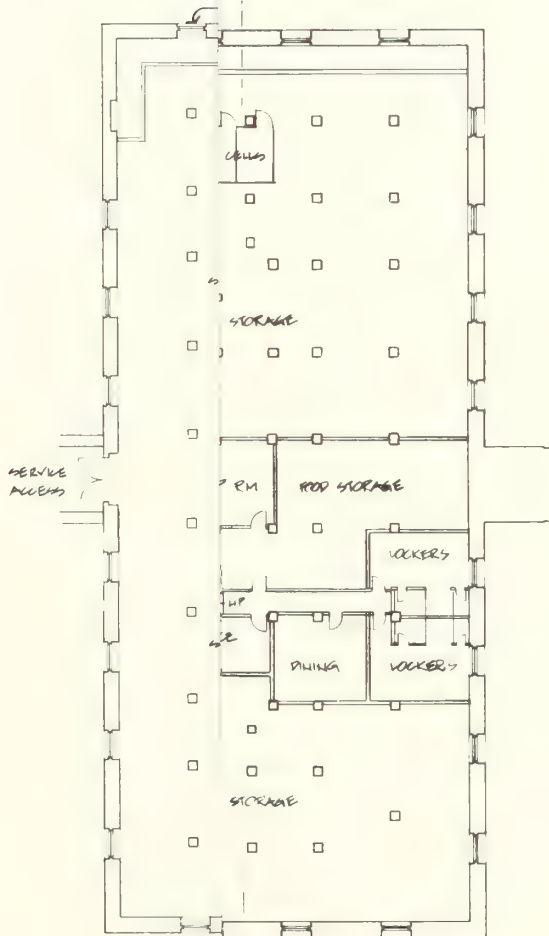
MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 63 of 70
DSC | JUL 88

MAIN BUILDING ELLIS ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY



0 8 16 32
FEET 1/16"=1'-0"

| | | | | | |
|-----------|--|----------------|-----------|------|-----|
| mk | | sht | REVISIONS | date | int |
| DESIGNED: | | DATE: 12 31 88 | | | |
| DRAWN: | | TECH REVIEW: | | | |

KEY PLAN



TITLE OF SHEET

BASEMENT PLAN

SUB SHEET NO.

DRAWING NO.

PD-1

PKG.
NO.

SHEET

OF

80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3980

BRUCE KELLY

PROFESSOR FRANK MATERO

| | |
|-----|--------|
| DSC | JUL 88 |
|-----|--------|

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**

A blank sheet of graph paper with a grid pattern. The grid consists of horizontal and vertical lines forming small squares. There are approximately 10 columns and 8 rows visible. The lines are thin and black on a white background.

| | | | |
|----|-----|-----------|------|
| mk | shl | REVISIONS | date |
|----|-----|-----------|------|

| | |
|----------|--------------|
| DESIGNED | DATE 11/1/88 |
|----------|--------------|

| | |
|-------|-------------|
| DRAWN | TECH REVIEW |
|-------|-------------|

BASEMENT PLAN

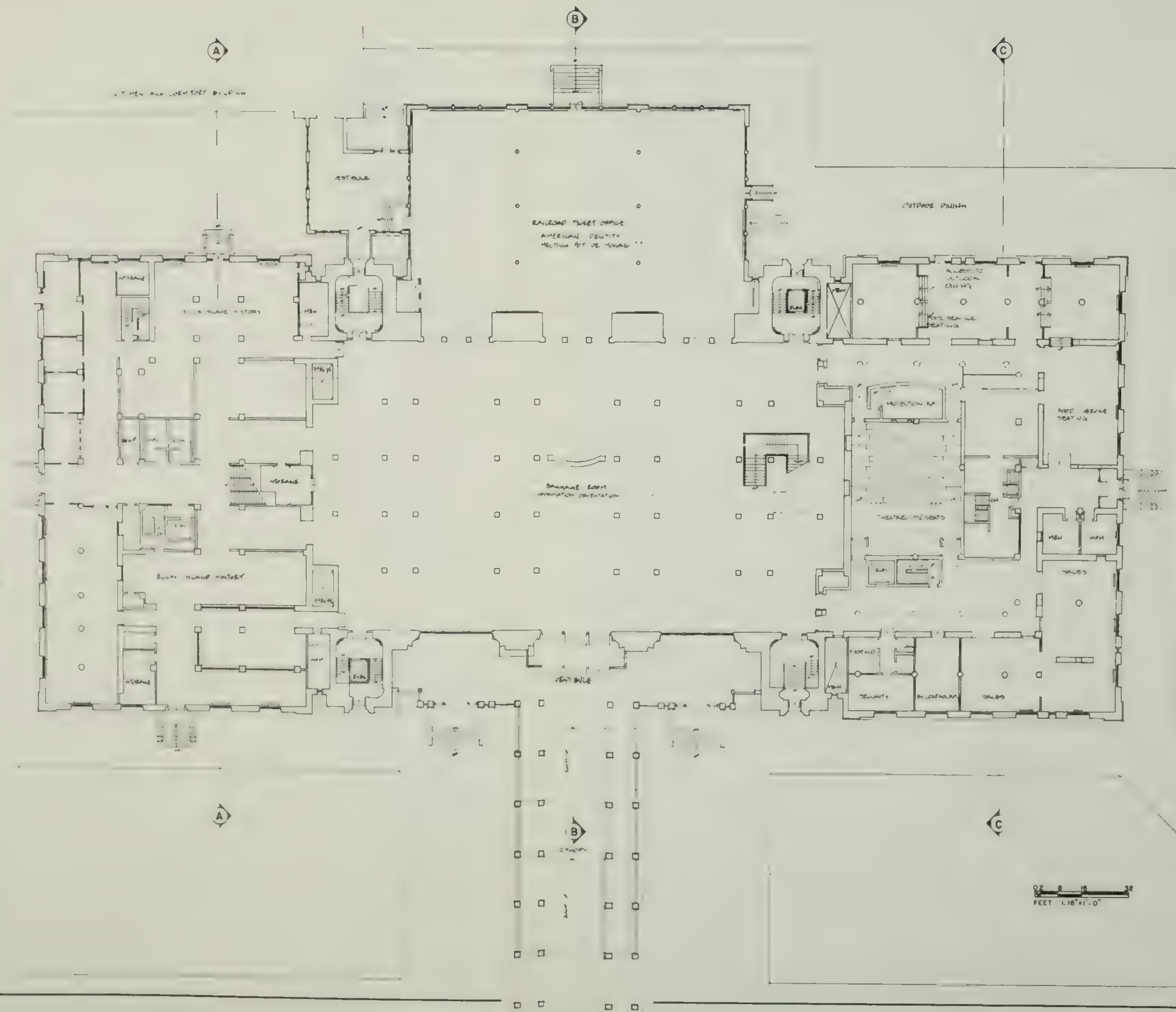
DRAFTING NO.

PKG
NO _____

SHEET

OF _____

| | |
|-------------|----------|
| PKG. NO. | SHEET |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | OF _____ |



UNITED STATES DEPARTMENT
OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS
BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3860

STRUCTURAL ENGINEERS
ROBERT SALMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS
SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT
BRUCE KELLY

SITE ENGINEERS
LOCKWOOD KEBBLER BARTLETT

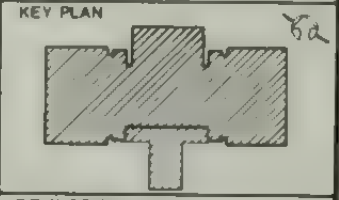
MATERIALS CONSULTANT
PROFESSOR FRANK MATERO

356 | 26,002 / 64 of 70
DSC | JUL 88

**MAIN
BUILDING
ELLIS
ISLAND**
STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

| | |
|-------------------|------|
| GENERAL REVISIONS | |
| mk | shl |
| REVISIONS | DATE |

| | |
|----------|----------------|
| DESIGNED | DATE '85 01 09 |
| DRAWN | TECH REVIEW |



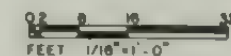
TITLE OF SHEET
FIRST FLOOR PLAN

| | |
|--------------|-----------------------|
| SUB SHEET NO | DRAWING NO |
| PD-2 | PKG NO SHEET OF |

PKG.
NO. _____



| | |
|-------------|----------|
| PKG. NO. | SHEET |
| _____ | _____ |
| _____ | _____ |
| _____ | OF _____ |



PKG.
NO. _____

SHEET

OF _____

ARCHITECTS

**BEYER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960**

STRUCTURAL ENGINEERS

ROBERT SELMAN ASSOCIATES, P.C.

**MECHANICAL &
ELECTRICAL ENGINEERS**

BYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 67 of 70 |
| DSC | JUL 88 |

MAIN BUILDING ELLIS ISLAND

**STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY**

| | | | |
|----------|-----|---------------|------|
| mk | amt | REVISIONS | date |
| DESIGNED | | DATE 13 01 85 | |
| DRAWN | | TECH REVIEW | |

KEY PLAN



TITLE OF SHEET

ROOF PLAN

SUB SHEET NO.

DRAWING NO.

PD-5

PK G.
NO

ARCHITECTS

BEVER BLINDER BELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SALMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 68 of 70
DSC | JUL 88

MAIN
BUILDING
ELLIS
ISLAND

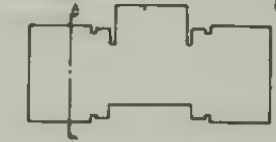
STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

mk sh REVISIONS date/mk

DESIGNED: DATE 12-1-88

DRAWN: TECH REVIEW:

KEY PLAN



TITLE OF SHEET

SECTION A

SUB SHEET NO

DRAWING NO

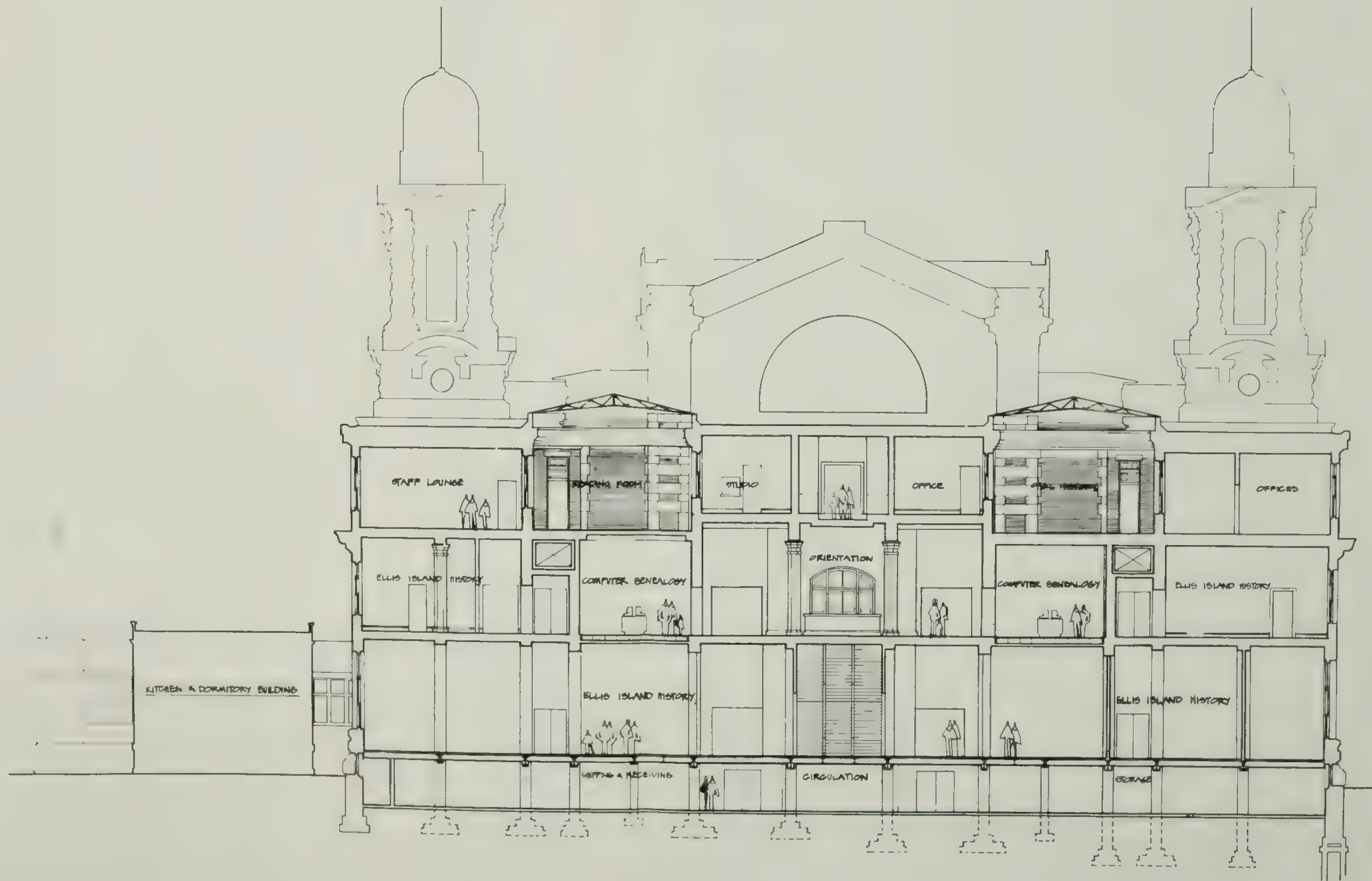
PD-6

20

PKG. NO

SHEET

OF



0 8 16
SCALE OF FEET

8 0 8 10
SCALE OF FEET

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

STRUCTURAL ENGINEERS
ROBERT SELMAN ASSOCIATES, P.C.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY


MATERIALS CONSULTANT
PROFESSOR FRANK MATERO

**MAIN
BUILDING
ELLIS
ISLAND**
STATE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

[illegible]

| | |
|----------|-------------|
| DESIGNED | DATE 2.2.89 |
| DRAWN | TECH REVIEW |

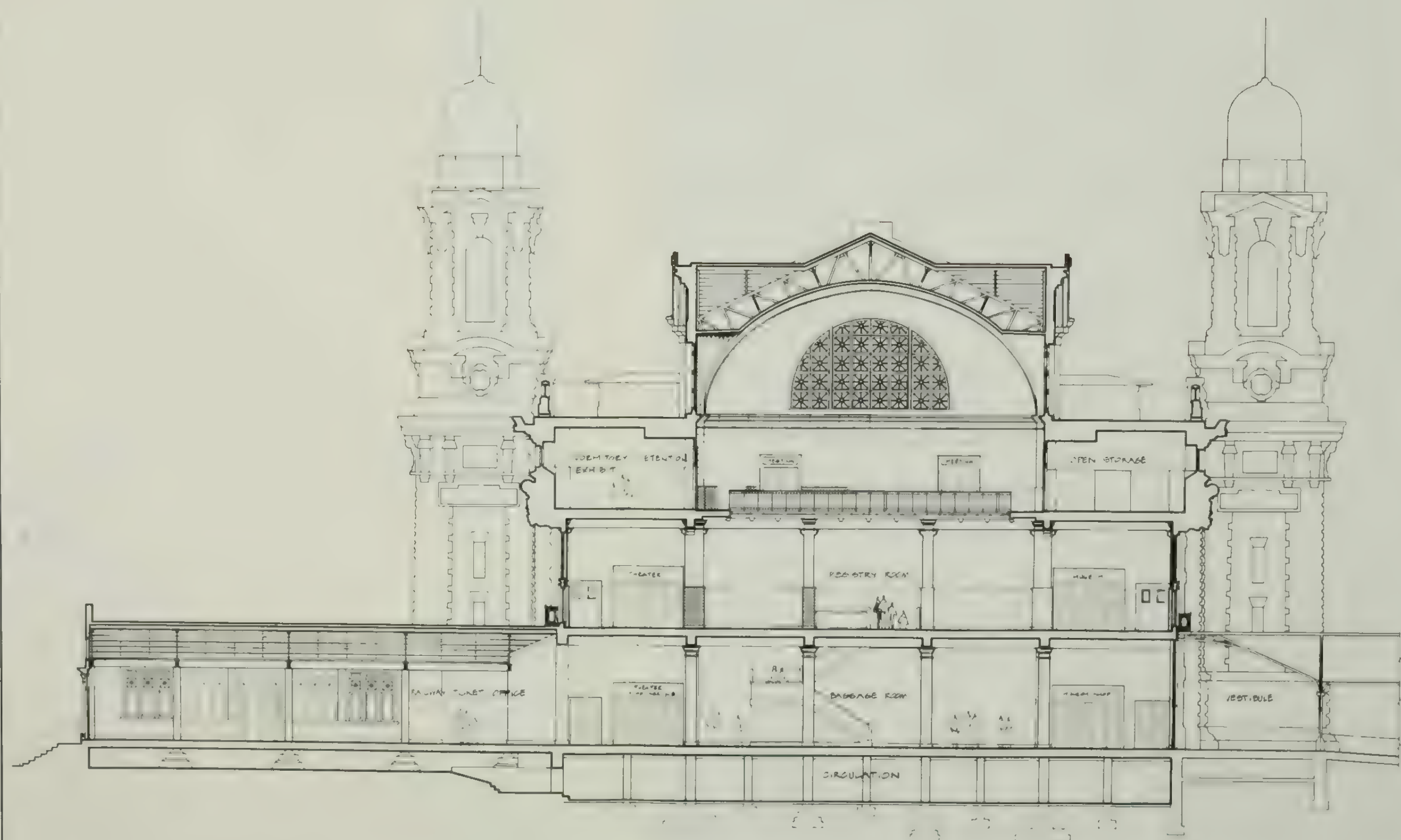
KEY PLAN



50

SECTION 8

| | |
|--------------------------------------|---|
| SUB SHEET NO PD-7 | DRAWING NO 21 |
| PKG NO _____ _____ _____ | SHEET <div style="border: 1px solid black; width: 100px; height: 50px; margin: 5px;"></div> OF _____ |



UNITED STATES DEPARTMENT
OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER SELLE /
ANDERSON NOTTER FINEGOLD
80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3960

STRUCTURAL ENGINEERS

ROBERT SILMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

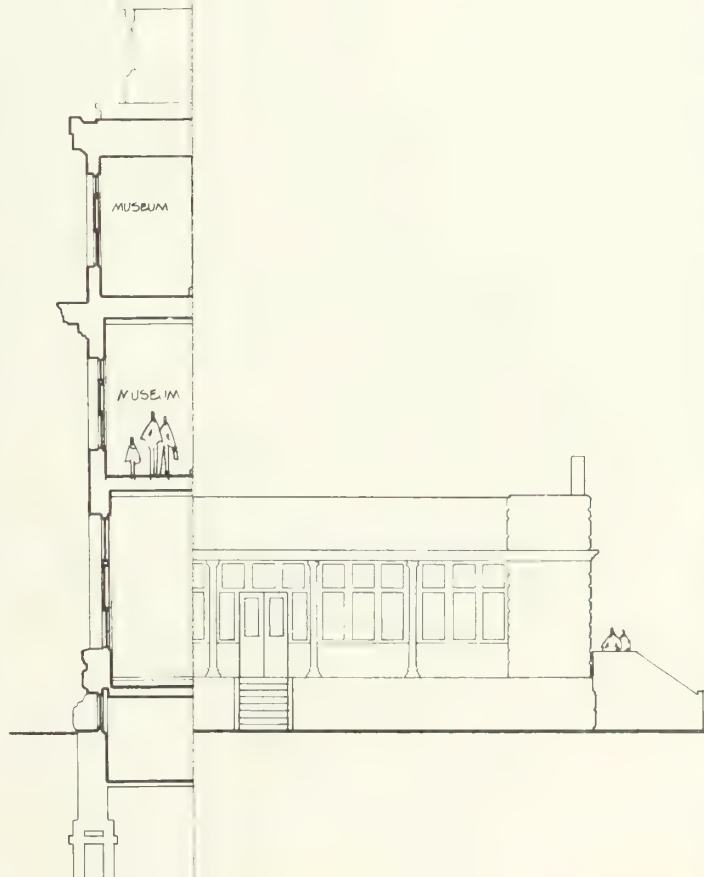
MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

356 | 26,002 / 70 of 70
DSC | JUL 88

**MAIN
BUILDING
ELLIS
ISLAND**

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY



8 0 8 16
SCALE OF FEET

mk sh REVISIONS date

DESIGNED: DATE: 12-21-85

DRAWN: TECH REVIEW:

KEY PLAN



TITLE OF SHEET

SECTION C

SUB SHEET NO.

PD-8

DRAWING NO.

22

PKG. NO. SHEET
OF



UNITED STATES DEPARTMENT
OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

ARCHITECTS

BEYER BLINDER SELLE /
ANDERSON NOTTER FINEGOLD

80 FIFTH AVENUE
NEW YORK, NY 10114
(212) 741-3000

STRUCTURAL ENGINEERS

ROBERT SELMAN ASSOCIATES, P.C.

MECHANICAL &
ELECTRICAL ENGINEERS

SYSKA & HENNESSY INC.

HISTORIC LANDSCAPE ARCHITECT

BRUCE KELLY

SITE ENGINEERS

LOCKWOOD KESSLER BARTLETT

MATERIALS CONSULTANT

PROFESSOR FRANK MATERO

| | |
|-----|-------------------|
| 356 | 26,002 / 70 of 70 |
| DSC | JUL 88 |

MAIN
BUILDING
ELLIS
ISLAND

STATUE OF LIBERTY
NATIONAL MONUMENT
NEW YORK / NEW JERSEY

REVISIONS

DESIGNED DATE 12 21 85

DRAWN TECH REVIEW

KEY PLAN



TITLE OF SHEET

SECTION C

SUB SHEET NO

PD-8

DRAWING NO

22

PKG NO SHEET

OF

0 0 0 16
SCALE OF FEET

conservation treatment can proceed. This should include the removal of iron anchors from the window enframements, repair of stone cracks and losses, repointing of masonry, removal of copper, iron, and black crust stains, and removal of efflorescence.

Gravel, built-up, and cinder concrete fill will be removed from the flat roofs of the center and wings. They will be replaced by tapered insulation on top of slab or structural clay, single ply membrane, and "LG board" (styrofoam insulation with a thin concrete topping). Historically, drainage problems in the building have led to deterioration. Therefore, the pitches of flat roof surfaces will be redesigned. The revised design will provide for the collection of rainwater in shallow roof valleys at structural bay centerlines and drained by new leader systems located in interior walls. The central roof over the registry room will be carefully dismantled and relaid over new roof substrate. Any new tile which is required will exactly match the existing material. Built-up, clay tile, mortar bed, and waterproofing layers will be removed from the roof of the railroad ticket office. They will be replaced with rigid insulation, 30# felt, and terne coated stainless steel.

b. Windows

Contemporary museum standards demand that exhibited artifacts be placed in climate-controlled spaces. Consequently, it will be necessary to replace some windows with double glazing to prevent condensation. A recent window survey has determined that retrofitting existing windows would have adverse aesthetic effects in architecturally significant spaces such as the registry and baggage rooms. However, new double glazing could and probably will

be installed in the less significant exhibit spaces of the east and west wings and in the balcony rooms. Carefully detailed designs will make their appearance indistinguishable from the existing windows except on close examination. Small windows in the eastern towers and some basement windows will be converted to air louvers.

c. Canopy

A cast-iron and glass canopy was constructed in front of the main building in 1902 and existed until its removal in 1932. It functioned to shelter people disembarking from boats and those waiting to be received into the building. A modern need for receiving and protecting visitors on a year-round basis will exist so the question arises as to what design should be used. Some existing landscape features date from the 1930's and were never coincidental with a canopy. The removal of existing trees in order to accommodate any new construction is to be kept to a minimum. It is also inconsistent with current preservation philosophy to construct an exact replica of the original canopy. As a result, the solution will probably be the design of a new canopy which is sympathetic to the original but also respects the existing landscape.

d. Stair

The first historic stair leading up to the registry room was located in the center of the baggage room near the entrance. It was deemed functionally inadequate and considered an obstruction to circulation because of its location in the center of the registry room floor. In 1911 it was removed and replaced by a second stair which was located on the east side of the baggage room. This second stair was removed in 1924 when immigrant processing began to cease and the use of the building changed.

Archival documents and oral histories have revealed that climbing the stair to the registry room was an important part of immigrant processing. The stair played a role in the medical inspection process and by design was intended to provide controlled access to the most monumental architectural space at the island. For these reasons, the stairway from the baggage room to the registry room is considered historically important and its recreation essential to evoke the immigrant experience. From a functional standpoint the stairway is needed again to move large numbers of people up to the registry room which will be the most important stop for most visitors to the island, just as it was for immigrants.

Both historic stairs were considered in the design of a new stair. The first stair located only 20 feet from the entrance was inefficient and had to be replaced by the second stair. The stair proposed today will be in the location and will be evocative of the second stair in configuration, but it will not be an exact replica. In addition, it is coincidental with the restoration of the baggage and registry rooms to the 1918-1924 period.

e. Theaters

Two multi-purpose film theaters will be constructed on the first and second floors in the core of the east wing. The survey of architectural significance determined that these areas having minor architectural significance and are in 'poor' to 'fair' condition. The placement of the theaters in this location will maintain the historic relationship of a central core surrounded by perimeter circulation. The use of theaters of a limited size will fill the core allowing for preservation of the exterior

walls of the light courts. A meeting room on the third floor will also be able to function as a theater. The content of the presentation in these two theaters is currently being studied.

f. Light Courts

The light courts in both the east and west wings will be covered with skylights. No longer constrained by the limitations of historic mechanical and lighting system requirements, these areas can now become useable spaces. The east light court (within the immigration museum) will be integrated into an expanded circulation system, including two escalators connecting the second and third floors. Reading and oral history listening rooms will be placed in the light court of the west wing.

g. Internal Walls

Rigid wall insulation will be installed on the face of interior walls which also have exterior exposure. New insulation and finishes will be installed in such a way as to minimally increase the cross-sectional dimensions of the walls. Where window trim is not of sufficient depth to receive an increased wall thickness, frames and trim will be extended to maintain their normal appearance. Where existing base and decorative moldings are retained on the interior walls within a room, they will be reused or reproduced on the exterior wall. Decorative moldings and bases will be carefully removed and replaced or replicated, if necessary.

Whenever feasible and practical, new building services, including HVAC ducting, piping, electric distribution, and fire protection systems will be concealed behind

finish materials. New grilles, fixtures, and devices will intervene minimally on historic fabric.

h. Electrical¹

Most of the components of the electrical system, with the exception of the recently installed equipment (see page 219), are not reusable. All of the older branch circuiting will be replaced due to deterioration of the conduit system and outlet boxes and the vandalization of the copper wiring. The older power distribution equipment must be replaced. The recently installed distribution equipment could be reused with some minor modifications such as relocation.

The existing 75 kw generators are in poor condition. However, they will be considered for reuse as an emergency backup to the primary source of power provided from the mainland.

Existing, refurbished and replicated lighting fixtures will be used in areas such as the registry room which are being restored to a particular period. Existing fixtures will probably be used in exhibition spaces wherever possible. They will be supplemented by sympathetic contemporary lighting where necessary.

Plans call for the centralization of all electrical, fire safety, HVAC control, and security panels in one master control room, located on the first floor east wing.

¹Syska & Hennessy, Inc., "Report on the Mechanical, Electrical, Plumbing, and Fire Protection Systems", 1983, pp. 1-2. On file in the office of BBB/ANF in New York.

i. Heating and Ventilation

Space limitations within the basement of the main building, and long term planning for the entire island, have determined that instead of a new generator, the original powerhouse at the northwest corner of the island be rehabilitated. By leaving the powerhouse in its original location the problems of adding elements such as a boiler flue and chimney at a new location on the island can be avoided. The scenographic appearance of the island will be preserved.

Crawl and ceiling spaces in the covered walkways which were originally used for steam distribution and utilities may be reused for the same purpose in this plan. Existing boilers and piping will have to be replaced.

Original radiators will be reused in areas that are being restored including the registry room, baggage room, railroad ticket office, balcony dormitories, and stair towers. The west wing of the first and second floors where the Ellis Island story will be interpreted will also have original radiators. The other spaces of the building which are going to be turned into contemporary spaces will have modern radiators.

An air conditioning system will be installed to service all rooms in the building. In addition, spaces that have artifacts will have humidity control. Existing duct spaces will be reused wherever possible.

j. Plumbing

Restroom facilities will be provided in existing and new toilet rooms. In both cases historic fixtures can be

reused with new fittings and faucets. All cold water, vent, and soil lines are not reusable and must be replaced. In addition, it is necessary to install new storm water piping.

k. Elevators

The existing elevators do not meet code requirements and are unsafe. An analysis of the existing elevator and of future vertical transportation needs for the building determined that there would be no mechanical or physical advantage in installing new elevators in the stair towers. It was recommended that new construction work associated with any tower elevator rehabilitation or replacement might jeopardize the structural integrity of the tower and stair. Consequently, the existing elevators cannot be restored to service. The two historic stair tower elevators may be retained and restored as non-operating museum displays. The existing enclosure would be cleaned and refinished. The elevator cabs can be raised and set on piles or blocks at the first floor level. The cabs would be cleaned and restored. In addition, dummy ropes and counterweights might be rigged up and the machine cleaned and its visual appearance restored.

New elevators will be installed in both the east and west wings for needed freight and passenger service to all levels.

1. Structural System²

1. Main Building³

A more comprehensive investigation must be undertaken to establish the extent of deterioration for the basement columns. This investigation will require removal of some quantity of masonry and will require close cooperation between the engineer and the contractor.

The following actions are required to restore the structural systems to a degree that will allow the proposed use of the building:

- a. Restore cement coating on wall footings.
- b. Reinforce deficient basement columns.
- c. Wirebrush, prime and finish paint all exposed rusted steel members at all levels.
- d. Remove spray-on fireproofing of rusted reinforcement on first floor beams and treat as item "c" above. Restore fireproofing.
- e. Tie walls together at third floor southeast corridor.
- f. Refinish third floor slab on registry room balcony to eliminate cracks.
- g. Treat stairs not painted under 1978 contract as in "c" above.
- h. Reinforce stair landing beams.
- i. Remove window grille anchors.

²Robert Sillman Associates, P.C., "Structural Investigation of Main Building and Ticket Office Building at Ellis Island". 1984, pp. I-2 - I-4.

³Note: These structural recommendations exclude mention of extensive new structural work which will be required in association with core area rehabilitation work planned for the main building. Plans for this are currently being developed.

- j. Patch cracks in interior face of east exterior wall.
- k. Replace missing bricks on interior face of registry room exterior walls.

2. Railroad Ticket Office

The following actions are required to restore the structural systems to a degree that will allow the proposed use of the building:

- a. Replace Columns Nos. E2 and E3.
- b. Wirebrush clean, prime and paint all structural steel roof members, all columns and all exposed structural steel wall and floor members.
- c. Reinforce some floor girders.
- d. Replace deteriorated clay roof tiles.
- e. Replace deteriorated roof sub purlins.
- f. Some roof purlins must be reinforced.
- g. The north wall must be braced to the roof framing system.
- h. The parapet above the west wall must be rebuilt and the wall below repointed.

In addition, a more comprehensive investigation of the clay roof tiles must be conducted just prior to the contractor beginning work.

m. Landscape

Grassy areas will predominate, with lawns in the front and meadows at the east side and rear of the main building. Tree clusters are being considered for selected areas. The trees on the south will remain and an esplanade will be developed. The existing paving which dates from a number of historic periods is in poor condition. This will be replaced with an appropriate contemporary material.

Benches and street furniture, evocative of the originals, will be placed in the landscape. Contemporary safety requirements dictate a higher level of lighting for the site than was historically the case. Lampposts along the esplanade will be selected to function with the new design providing safe illumination stylistically sympathetic to the historic building and site. The first phase of an island-wide perimeter walkway will be built.

n. Dining Terrace

Outdoor dining has proven to be very popular at the Statue of Liberty and is considered a desirable feature for Ellis Island. A dining terrace is proposed for the east end of the building with access from the food service area. The terrace would receive maximum sunlight during the peak dining hours and would take advantage of the views of the New York skyline and the Statue of Liberty. The terrace will be low in elevation and have a minimal visual impact on the historic east facade. Two windows will be converted into doorways in order to provide necessary egress from the building and for convenient food service. The terrace design will also accommodate handicapped access as required by code.

o. Handicapped Access

1. Standards

Access for the handicapped will be based on the ANSI 117.1 code pertaining to handicapped access.

2. Access From the Exterior

Landscaping and paving will be designed to promote easy and safe usage by the handicapped. A contemporary glazed canopy will extend to a new main entrance at the baggage room and include ramped access, as did the original. A second ramped access will be provided at the rear wall of the railroad ticket office. The ramp level change is several feet and will be integrated into landscape design.

If an intermediate terrace level is established, such as an outdoor dining area, it will be connected to the interior or the site by ramp.

3. Access Throughout the Interior

All public spaces within the building will be accessible to the handicapped. The entire first floor (except for sloped theater seating) is at the level of entry. Flat areas are provided for handicapped seating in the theaters.

A new stair and elevator core will be provided within each of the two wings. The elevators and stairs will be constructed to handicapped standards. The new open stair to be built connecting the baggage room with the registry room will conform to handicapped standards.

Elevators will provide handicapped access to the second and third floor levels. The second floor, like the first, is on one level. The wings of the third floor are lower than the center portion of the building since they are additions on the original roof. All three sections will be connected by ramp.

The basement will be reserved for staff use and will also be served by the elevator.

4. Access to Specific Spaces

Handicapped persons will enter the two theaters through doors used by other visitors and find designated wheelchair spaces interspersed with seating at the entrance level.

A sufficient number of new toilet rooms designed for handicapped access will be located on each public floor. Not all toilet rooms in the building will meet all handicapped requirements if existing fixtures are to be reused for interpretive purposes.

p. Life Safety

1. Standards

The BOCA code will be used for this project. With amendments, it has been adopted as the state building code for New Jersey. In specific circumstances where the New York City building code is clearly more restrictive, the intention will be to abide by the stricter interpretation as long as more serious conflicts are not generated.

2. Compartmentalization

The main building will be compartmentalized into three fire zones - the east wing, central area, and west wing. This configuration affords several advantages in terms of life safety and preservation of the historic building fabric. The area involved for containment of a

fire will be reduced from an entire floor level to a portion of a floor level. The use of the fire zones allows visitors to pass from an area of danger, through a wall, into an area of safe refuge where exit from the building may be at a slower and safer pace. The use of these horizontal exits to areas of safe refuge diminishes the degree of intervention and new construction required to provide a comprehensive egress system with code compliance. A new fire stair will be provided in each wing to serve these fire zones and to satisfy travel distance limitations. Compartmentalization will allow the new stairs to be one third the width that they would otherwise have to be. Some new door openings will be provided between fire zones.

3. Fire Suppression System

The main building will be partially sprinklered. After consultation with a semi-public code review agency, it has been determined that an equivalency of protection will exist for the main building in compliance with the BOCA code requirement for total sprinklering of assembly occupancy areas greater than 12,000 sq.ft. The large central registry room and baggage room may not reasonably be compartmentalized smaller than the 12,000 sq.ft. requirement. They are, however, of fire resistive construction and unobstructed, affording quick and orderly egress. A sophisticated early warning alarm system will also be installed. An advantage of partial sprinklering is that it will not be necessary to install new sprinklering in historically sensitive areas.

The basement and certain service and storage spaces will be sprinklered as specifically required by code.

In addition, the exposed steel trusses in the railroad ticket office will be sprinkler-protected in order to upgrade the fire-resistive characteristics of this single area. This will make them equivalent to those of the concrete and masonry encasement of the steel structure throughout the rest of the building. The introduction of sprinklers into this industrial type open web construction space will be unobtrusive.

4. Balcony

The center portion of the third floor does not presently qualify as an open mezzanine (less than 1/3 the area) to the registry room level below. Compatibly designed fire doors on magnetic holders will be installed to form vestibules in front of each of the four stair towers. The walls between the balcony and the north and south mezzanine rooms will be upgraded to two-hour construction. Rooms behind these walls will have protected access to the tower stairs, thus reducing the open balcony communicating directly with the registry room to less than one third of the floor area below.

5. Lightning Arrestor System

A complete lightning arrestor system will be installed to protect the building. Components are generally compatible with building detailing. The linear protection at roof perimeters is with pencil-thick arrestors approximately ten inches high. These will be set back from the roof edges and be visually unobtrusive.

q. Graffiti

The graffiti that has been uncovered is probably only a small percentage of the existing graffiti. It is

likely that more examples will be located as work on the building continues. The graffiti is an unusual cultural resource which merits immediate attention and future consideration. It has unique potential for use in the interpretation of the building and the Ellis Island story. In order to effectively document and treat as much graffiti as possible, the following conservation program is proposed:

1. Survey: photodocumentation including infrared enhanced photography.
2. Stabilization: temporary treatment of the significant examples in poor condition and those scheduled for relocation.
3. Removal: of all graffiti not scheduled for in situ conservation and interpretation.
4. Conservation treatment: full treatment involving paint removal, cleaning, and substrate consolidation (if necessary). Display support design for relocated examples.
5. Preservation/interpretation: retention of as much graffiti as possible for in situ presentation. Possible arrangement of ex situ graffiti samples in various locations for display and interpretation at various "wayside exhibits" subject to recommendations of final interpretive plan for building.

r. Archeology

Archeological survey work is currently underway at the island under the direction of John Pousson of the NPS/N.E. Team Archeology Laboratory. To date a surface survey of the entire island has been completed and several probes have been made to the north and east of the main building for purposes of establishing both vertical and horizontal control points. Probes have thus far located the

remains of the powder magazine of the East Gibson military installation dating from 1808-1812.

Superimposition of archival plans over the current plans of the main building and its immediate landscape has provided a basis for some design decisions regarding new utility installation and possible landscape planning at the site.

4. Recommendations for Further Study

a. Graffiti Inventory and Analysis

Samplings of graffiti have been found in the main building which represent a potential wealth of historical information. A comprehensive inventory of graffiti should be undertaken. This type of survey involving examination of several paint layers is time consuming so the scheduling of this work must be carefully planned. Limited demolition and removal work is scheduled to begin shortly and more extensive rehabilitation work will follow soon after. Therefore, it is important that the comprehensive inventory be conducted immediately.

b. Archeological Site Interpretation

Based on the findings and recommendations of the archeological survey work which is presently underway, more excavation work should proably occur in the near future. The possibility should be explored of an archeological site display, either enclosed or open air, in the vicinity of the main building. It could help interpret the history of Ellis Island in days prior to its use as an immigration station.

c. Future Areas of Research

Extensive historical, archival, and architectural research has yielded a wealth of information on the history of this nationally significant resource. It seems safe to say that most, if not all, major archival resources have been identified. While many of these materials have been analyzed, much work remains to be done. Additional primary source materials might be found from unlikely sources such as antiquarian book fairs and ephemera shows.

National advertising in search of historical information in private hands would probably be extremely worthwhile.

A survey and inventory of machinery and artifacts of industrial archeological interest might be conducted. This survey would identify elements of historic engineering interest that could be presented in the overall island interpretative program.

A complete furniture and artifact inventory might be conducted for the other buildings on the island. This work should probably follow the same inventory methodology used for the Main Building, including the removal of artifacts to safe and secure storage areas.

d. H.S.R. Work for Other Buildings

In depth H.S.R. work should continue for other parts of the island beginning with the remainder of island 1 (unit 1). Each structure at the island represents an important aspect of the overall history of the site and will be interpreted at the main building in 1986. Information

gleaned from these additional reports should be made available for interpretive planners and other members of the design team as soon as possible.

E. SELECTED BIBLIOGRAPHY

E. SELECTED BIBLIOGRAPHY

1. Reports, Books, and Articles

Building Conservation Technology/The Ehrenkrantz Group.
"Historic Structures Report; Ellis Island Statue of
Liberty National Monument New York." Prepared for the
National Park Service, 1978.

_____. "Window and Masonry Testing; Main Building;
Ellis Island Statue of Liberty National Monument, New
York." Prepared for the National Park Service, May
1979.

Building Conservation Technology/The Ehrenkrantz Group and
Syska & Hennessy, Inc. "Historic Structure Report;
Mechanical and Electrical Rehabilitation; Main
Building." Prepared for the National Park Service,
1980.

_____. "The Mechanical and Electrical Rehabilitation of
the Main Building at Ellis Island." Prepared for the
National Park Service, 1978.

Cantor, Irwin, P.C. "Structural Investigation; Main
Building, Ellis Island N.J./N.Y." Prepared for the
National Park Service, 1978.

Kelly, Bruce. "Historic Landscape Analysis of Ellis
Island." Prepared for Beyer Blinder Belle/Anderson
Notter Finegold. On file in the office of BBB/ANF in
New York.

Collins, George R. "The Transfer of Thin Masonry Vaulting
from Spain to America." Journal of the Society of
Architectural Historians 27 (Oct. 1968): 175-220.

Matero, Frank Gerard. "Exterior Conditions Study: Main
Building; Ellis Island National Monument." Prepared for
Beyer Blinder Belle/Anderson Notter Finegold, April
1984. On file in the office of BBB/ANF in New York.

_____. "Historic Interior Study: Main Building; Ellis
Island National Monument." Prepared for Beyer Blinder
Belle/Anderson Notter Finegold, May 1984. On file in
the office of BBB/ANF in New York.

New York University Museum Studies Program. Flora S. Kaplan, Project Director. "Inventory of Historic Furnishings at Ellis Island." Prepared for the National Park Service, October 1982.

Pitkin, Thomas M. Keepers at the Gate; A History of Ellis Island. New York: New York University Press, 1975.

Robert Silman Associates, P.C. "Structural Investigation of the Main Building and Ticket Office Building at Ellis Island." Prepared for Beyer Blinder Belle/Anderson Notter Finegold, February 1984. On file at the office of BBB/ANF in New York.

Syska & Hennessy, Inc. "Condition of the Existing Elevators." Memorandum, October 19, 1983. On file in the office of BBB/ANF in New York.

_____. "Ellis Island; Main Powerhouse as a Central Plant; Preliminary Information Package." Prepared for Beyer Blinder Belle/Anderson Notter Finegold, February 1984. On file in the office of BBB/ANF in New York.

_____. "Report on the Mechanical, Electrical, Plumbing and Fire Protection Systems; Main Building, Ellis Island." Prepared for Beyer Blinder Belle/Anderson Notter Finegold, December 1983. On file at the office of BBB/ANF in New York.

U.S. Department of the Interior, National Park Service. "Chronology of Immigration, Legislation, and the Ellis Island Immigration Station During 19th and 20th Centuries." Appendix C in "Ellis Island Study," prepared by the National Park Service for the Secretary of the Interior, May 1978.

U. S. Department of the Interior, National Park Service, Denver Service Center. General Management Plan: Statue of Liberty National Monument. September 1982.

_____. "Historic Resource Study (Historical Component)," by Harlan D. Unrau. May 1984.

_____. "Historic Structure Report; Ellis Island; Historical Data," by Harlan D. Unrau. May 1981.

U.S. Department of the Interior, National Park Service, Harper's Ferry Center. "Statue of Liberty Ellis Island National Monument, Interpretive Prospectus," January 1984.

2. Drawings and Documents

Denver. National Park Service. Denver Service Center.
Architectural Drawings of Buildings on Ellis Island, New
York Harbor.

Denver. National Park Service. Denver Service Center.
Ellis Island Architectural and Maintenance Records,
1898-1955.

Suitland, Maryland. National Archives. Washington National
Records Center. Record Group 121, Records of the Public
Buildings Service.

Washington, D.C. National Archives. Record Group 85.
Records of the Bureau of Immigration and Naturalization,
1906-1932.

3. Photographs

New York. New York Public Library. Local History and
Genealogy Division. William Williams Collection.

New York. New York Public Library. Manuscripts and
Archives Division. William Williams Papers.

New York. Statue of Liberty Ellis Island National
Monument. Augustus F. Sherman Collection.

Washington, D.C. The Catholic University of America.
Powderly Papers and Photographs.

Washington, D.C. Library of Congress.

Washington, D.C. National Archives. Audiovisual Archives
Division, Still Picture Branch.

Washington, D.C. U.S. Immigration & Naturalization Service.

III. APPENDIXES

B – F

APPENDIX B: RECORD OF MATERIALS ANALYSIS

The following representative paint samples were selected from over 100 samples collected during the investigation of the principal interiors of the main building at Ellis Island. All assigned dates are conjectural, based on supporting archaeological and documentary material. Dates attempt to reflect major trends in the morphological evolution rather than subtleties in design.

ELLIS ISLAND NATIONAL MONUMENT, NEW YORK/NEW JERSEY
HISTORIC INTERIOR STUDY

MAIN BUILDING
REPRESENTATIVE INTERIOR FINISHES

| ROOM: | NORTHWEST STAIRTOWER (S01) | | | | | | | |
|--------------------------------|----------------------------|------|----------------|------|------------------|------|------------------|------|
| ELEMENT: | Wall, dado / rail | | Wall, field | | Stairs, ironwork | | Stairs, handrail | |
| LAYER STRUCTURE and DATE | S-plaster | | S-plaster / | | S-iron | | S-oak | |
| | 1-dark grey | 1900 | 1-grey green / | 1900 | 1-red lead | | 1-varnish / | 1900 |
| | 2-dark green / | 1903 | 2-cream | | 2-iron oxide | | 2-red | 1940 |
| | 3-light green | | 3-cream / | | 3-dark green / | 1900 | 3-grey | |
| | 4-dark green / | | 4-tan | | 4-olive green | | 4- | |
| | 5-dark green / | | 5-grey green / | | 5-black / | 1908 | 5- | |
| | 6-white | | 6-cream | | 6-cream | | 6- | |
| | 7-white / | 1918 | 7-cream / | 1918 | 7-aluminum / | 1918 | 7- | |
| | 8-white | | 8-cream | | 8-aluminum / | | 8- | |
| | 9-white | | 9-cream | | 9-grey / | 1924 | 9- | |
| | 10-white | | 10-cream | | 10-grey | | 10- | |
| | 11-white | | 11-cream | | 11- | | 11- | |
| | 12-cream | | 12-cream | | 12- | | 12- | |
| | 13-cream | | 13-yellow | | 13- | | 13- | |
| | 14-cream | | 14-cream | | 14- | | 14- | |
| | 15-cream | | 15-white | 1940 | 15- | | 15- | |
| | 16-white | | 16-tan / | | 16- | | 16- | |
| | 17-yellow | | 17-cream | | 17- | | 17- | |
| | 18-white | | 18- | | 18- | | 18- | |
| | 19-white | 1940 | 19- | | 19- | | 19- | |
| | 20-white | | 20- | | 20- | | 20- | |
| | 21-white | | 21- | | 21- | | 21- | |
| | 22-tan | | 22- | | 22- | | 22- | |
| | 23- | | 23- | | 23- | | 23- | |
| | 24- | | 24- | | 24- | | 24- | |
| | 25- | | 25- | | 25- | | 25- | |
| | 26- | | 26- | | 26- | | 26- | |
| | 27- | | 27- | | 27- | | 27- | |

ELLIS ISLAND NATIONAL MONUMENT, NEW YORK/NEW JERSEY
HISTORIC INTERIOR STUDY

MAIN BUILDING
REPRESENTATIVE INTERIOR FINISHES

| RAILROAD RICKET OFFICE (121) | | | | | |
|--------------------------------|--|------------------------------|---|------------------------------|---|
| ROOM: | | | | | |
| ELEMENT: | Wall, dado | Wall, field | Wall, above ceiling | Ceiling trusswork | |
| LAYER STRUCTURE and DATE | S-plaster 1-dark green 2-dark green/ 3-dark green/ 4-cream 5-grey/ 6-tan/ 7-tan/ 8-cream 9-tan/ 10-dark green 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | 1905 1926 1940 | S-plaster 1-light green 2-light green/ 3-light green/ 4-light green/ 5-tan 6-tan 7-tan/ 8-cream/ 9-tan 10-yellow 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | 1905 1926 1940 | S-iron oxide 1-iron oxide 2-cream/ 3-cream 4-cream 5-cream 6-tan/ 7-yellow 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- |

ELLIS ISLAND NATIONAL MONUMENT, NEW YORK/NEW JERSEY
HISTORIC INTERIOR STUDY

MAIN BUILDING
REPRESENTATIVE INTERIOR FINISHES

| ROOM: BAGGAGE ROOM (128) | | | | | |
|---|--|------------------|---|--|--|
| ELEMENT: | | North wall add't | | Sash & surrounds | |
| LAYER STRUCTURE and DATE | | | | | |
| S- plaster 1- cream 2- cream/ 3- white 4- grey/ 5- flesh/ 6- blue 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | | 1940 | S- wood 1- varnish/ 2- white 3- cream 4- cream 5- grey 6- tan 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | S- 1- 2- 3- 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | |

ELLIS ISLAND NATIONAL MONUMENT, NEW YORK/NEW JERSEY
HISTORIC INTERIOR STUDY

MAIN BUILDING
REPRESENTATIVE INTERIOR FINISHES

| ROOM: | | BOARD ROOM (210/11) | | | |
|--------------------------------|---|--|--|--------------|---|
| ELEMENT: | Walls | Woodwork (all) (incl. sash & doors) | | Ceiling | |
| LAYER STRUCTURE and DATE | S- plaster 1- cream/ 2- blue grey 3- 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | 1909 | S- oak veneer 1- shellac/ 2- black 3- 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | 1909 1909 | S- plaster 1- cream/ 2- blue grey 3- (dropped) 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- |

ELLIS ISLAND NATIONAL MONUMENT, NEW YORK/NEW JERSEY
HISTORIC INTERIOR STUDY

| ROOM: | REGISTRY ROOM (231) | | | | | |
|--------------------------------|--|--|---|--|---|--|
| ELEMENT: | Main level: Wall, dado/rail | | Main level: Wall, field | | West wall ca. 1924 | Balcony cornice (added 1908) |
| LAYER STRUCTURE and DATE | S-plaster/ 1-dark green/ 2-med. green 3-med. green 4-med. green 5-med. green 6-med. green 7-light green 8-light green/ 9-cream&sand 10-pale yellow/ 11-white 12-white 13-yellow 14-white 15-white 16-cream/ 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | 1900 1903 1918 1918 | S-plaster/ 1-cream/ 2-cream 3-cream/ 4-cream 5-cream/ 6-cream/ 7-cream 8-cream/ 9-cream 10-cream 11-cream 12-white 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | 1900 1903 1918 1924 | S-plaster 1-cream 2-cream/ 3-cream 4-cream 5-grey 6-white 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20 21 22- 23- 24- 25- 26- 27- | S-galvan.iron 1908 1-cream 2-cream/ 3-yellow/ 4-cream 5-cream 6-tan 7-tan 8-cream 9-cream 10-cream 11-cream 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- |

ELLIS ISLAND NATIONAL MONUMENT, NEW YORK/NEW JERSEY
HISTORIC INTERIOR STUDY

MAIN BUILDING
REPRESENTATIVE INTERIOR FINISHES

| ROOM: | REGISTRY ROOM (231) | | | | | | |
|--------------------------------|-----------------------------------|--------------------|----------------|-----------------------|-----------------------|-------------------------|--|
| ELEMENT: | West stairs: risers & stringer | Balcony balustrade | | Balcony handrail | | Balcony transom sash | |
| LAYER STRUCTURE and DATE | | | | | | | |
| S- iron | S- iron | S- iron | S- wood | S- wood | S- wood | S- wood | |
| 1- red lead | 1- red lead | 1- cream | 1- cream | 1- varnish/ 2- red | 1- varnish/ 2- red | 1- varnish/ 2- white | |
| 2- light green | 2- light green | 2- light green | 2- light green | 3- | 3- | 3- cream/ 4- cream | |
| 3- dark green | 3- dark green | 3- dark green | 3- dark green | 4- | 4- | 5- grey | |
| 4- dark green | 4- dark green | 4- white | 4- white | 5- | 5- | 6- dark green | |
| 5- dark green | 5- dark green | 5- aluminum/ | 5- aluminum/ | 6- | 6- | 7- dark green | |
| 6- aluminum | 6- aluminum | 6- aluminum/ | 6- aluminum/ | 7- | 7- | 8- light grey | |
| 7- aluminum/ | 7- aluminum/ | 7- aluminum/ | 7- aluminum/ | 8- | 8- | 9- tan | |
| 8- dark grey | 8- dark grey | 8- aluminum/ | 8- aluminum/ | 9- | 9- | 10- | |
| 9- white | 9- white | 9- white | 9- white | 10- | 10- | 11- | |
| 10- aluminum / | 10- aluminum / | 10- white | 10- white | 11- | 11- | 12- | |
| 11- aluminum/ | 11- aluminum/ | 11- white | 11- white | 12- | 12- | 13- | |
| 12- white/ | 12- white/ | 12- white | 12- white | 13- | 13- | 14- | |
| 13- white | 13- white | 13- white | 13- white | 14- | 14- | 15- | |
| 14- | 14- | 14- white | 14- white | 15- | 15- | 16- | |
| 15- | 15- | 15- white | 15- white | 16- | 16- | 17- | |
| 16- | 16- | 16- white | 16- white | 17- | 17- | 18- | |
| 17- | 17- | 17- white | 17- white | 18- | 18- | 19- | |
| 18- | 18- | 18- white | 18- white | 19- | 19- | 20- | |
| 19- | 19- | 19- white | 19- white | 20- | 20- | 21- | |
| 20- | 20- | 20- white | 20- white | 21- | 21- | 22- | |
| 21- | 21- | 21- white | 21- white | 22- | 22- | 23- | |
| 22- | 22- | 22- white | 22- white | 23- | 23- | 24- | |
| 23- | 23- | 23- white | 23- white | 24- | 24- | 25- | |
| 24- | 24- | 24- white | 24- white | 25- | 25- | 26- | |
| 25- | 25- | 25- white | 25- white | 26- | 26- | 27- | |
| 26- | 26- | 26- white | 26- white | 27- | 27- | | |
| 27- | 27- | 27- white | 27- white | | | | |

ELLIS ISLAND NATIONAL MONUMENT, NEW YORK/NEW JERSEY
HISTORIC INTERIOR STUDY

MAIN BUILDING
REPRESENTATIVE INTERIOR FINISHES

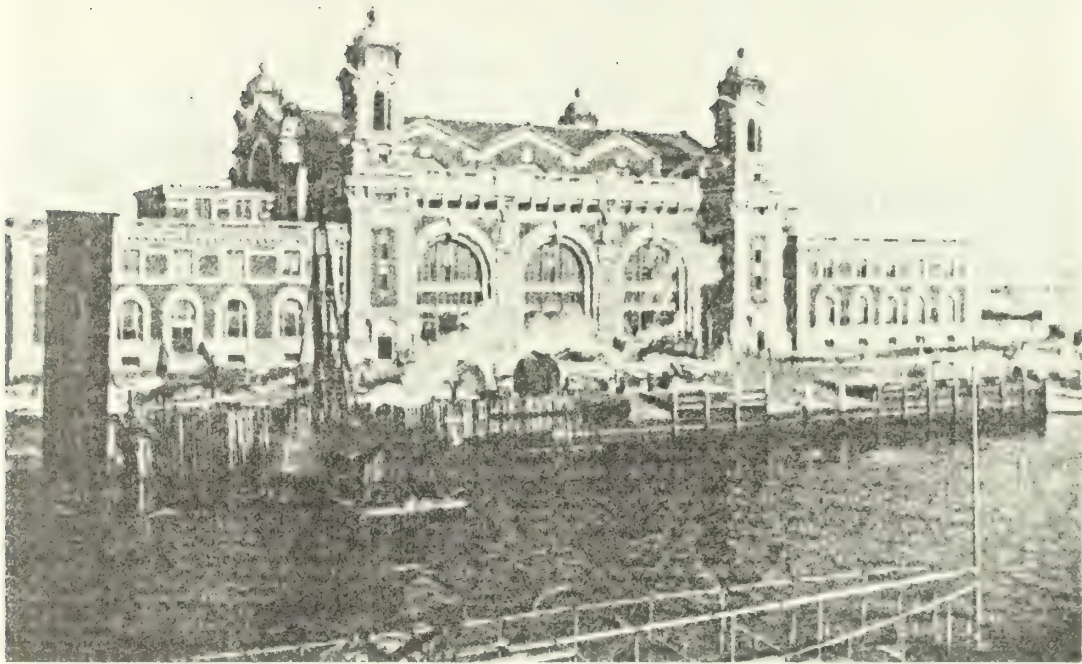
| REGISTRY ROOM (231) | | | | |
|--------------------------------|--|--|--|--|
| ROOM: | | | | |
| ELEMENT: | Balcony dorm. door, frame (1918) | Balcony dorm. door, metal sheet (lower) | Balcony dorm. door enframement (1918) | |
| LAYER STRUCTURE and DATE | S- wood 1- light grey/ 2- cream 3- cream/ 4- light grey 5- dark green/ 6- dark green/ 7- light grey 8- tan 9- red 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | S- galv. iron 1- light grey/ 2- cream 3- cream/ 4- light grey 5- dark green/ 6- dark green/ 7- light grey 8- tan 9- red 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | S- galv. iron 1- light grey/ 2- cream 3- cream/ 4- light grey 5- dark green/ 6- dark green/ 7- light grey 8- tan 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | S- 1- 2- 3- 4- 5- 6- 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- |

| ELLIS ISLAND NATIONAL MONUMENT, NEW YORK/NEW JERSEY | | | | MAIN BUILDING | | REPRESENTATIVE INTERIOR FINISHES | | |
|---|---|-----------------------|---|---------------|---|----------------------------------|--|--|
| ROOM: | | NORTH DORMITORY (335) | | | | | | |
| ELEMENT: | Transom surround & sash | | Hall door (interior face) | | Water-closet door enframement | | Water-closet door | |
| LAYER STRUCTURE and DATE | S- wood 1- varnished/ 2- grey/ 3- grey 4- grey 5- black 6- white 7- grey 8- tan 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | | S- galvan.iron/ 1- grey/ 2- grey/ 3- grey/ 4- black 5- white 6- grey/ 7- tan 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | | S- wood 1- lt grey 2- dark grey/ 3- light grey/ 4- light grey/ 5- light grey 6- tan 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | | S- galvan.iron/ 1- lt grey 2- dark grey/ 3- light grey 4- light grey/ 5- light grey 6- tan 7- 8- 9- 10- 11- 12- 13- 14- 15- 16- 17- 18- 19- 20- 21- 22- 23- 24- 25- 26- 27- | |
| | 1900 1908 1918 1924 | | 1908 1918 1924 | | 1908 1918 1924 | | 1908 1918 1924 | |

APPENDIX C: HISTORICAL PHOTOGRAPHS & POSTCARDS

1. Exterior Photographs

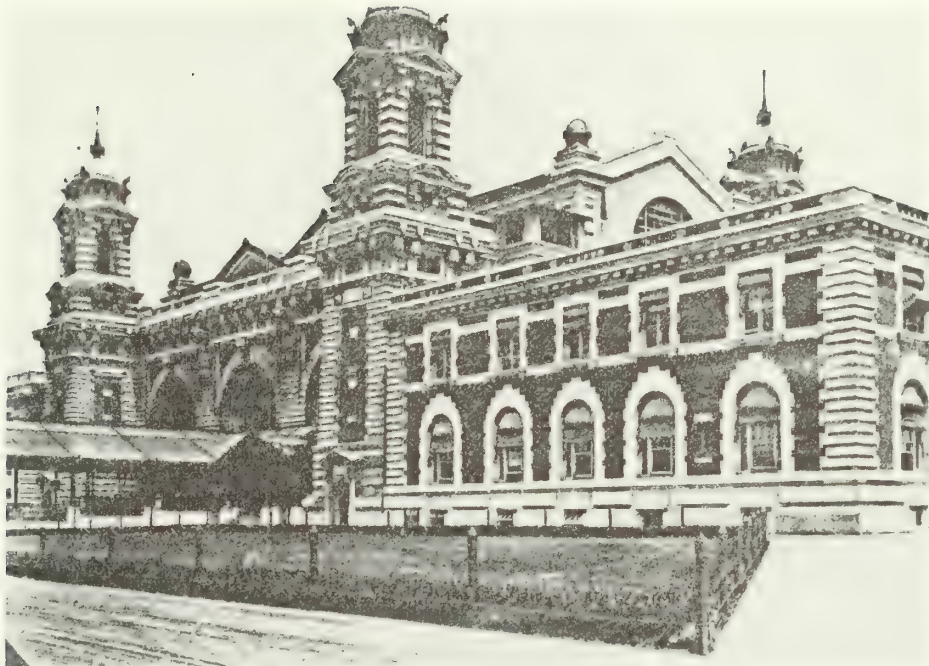
Exterior photographs provide a record of the historical appearance of the main building. They document the original roof gardens, striped awnings, and the addition of the third floor wings. Photographs of the canopy as a functioning space are included in the interior photographs section.



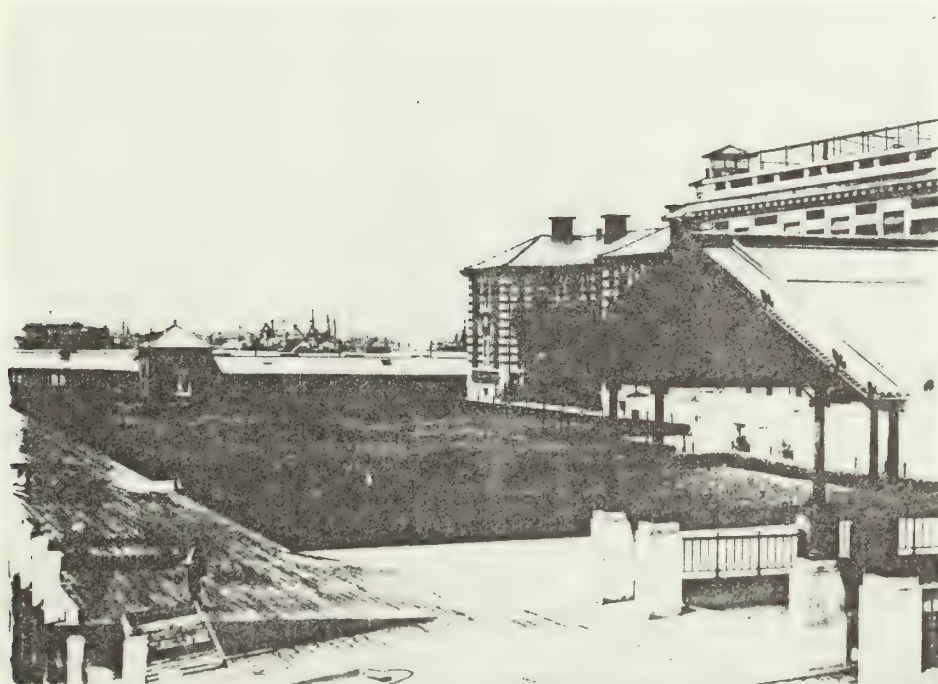
1. South elevation, view north, ca. 1900. Powderly Papers and Photographs. Department of Archives and Manuscripts, The Catholic University of America.



2. South elevation, view north, June 30, 1901. National Archives, Audiovisual Archives Division, Still Picture Branch.



3. South elevation, east wing, view northwest, ca. 1903. William Williams Collection No. 36. New York Public Library, Local History and Genealogy Division.



4. Canopy and west wing roof garden, view northwest, ca. 1903. William Williams Collection No. 40. New York Public Library, Local History and Genealogy Division.



5. South elevation, view north, 1903-1910. Powderly Papers and Photographs. Department of Archives and Manuscripts, The Catholic University of America.



6. South and west elevations, view northeast, 1909-1910. Edwin Levick, photographer. William Williams Collection No. 3. New York Public Library. Local History and Genealogy Division.



7. South and east elevations, view northwest, 1911-1913. Powderly Papers and Photographs. Department of Archives and Manuscripts, The Catholic University of America.



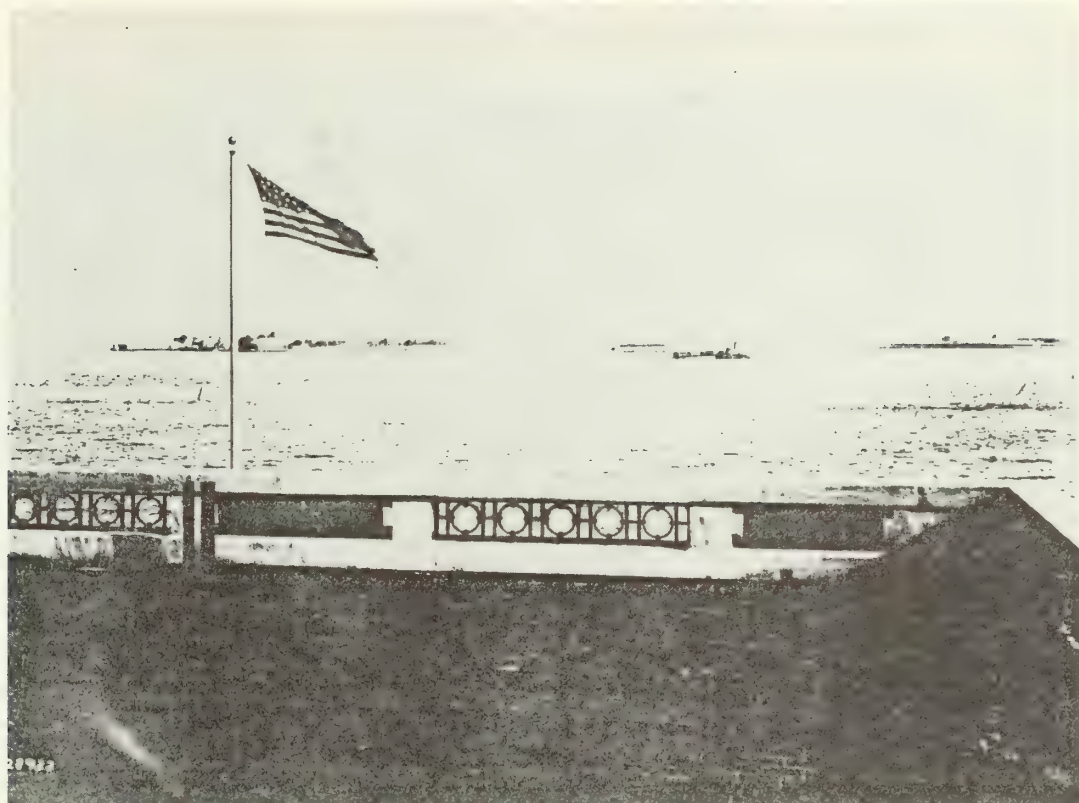
8. South elevation, view north, 1911-13, Edwin Levick, photographer. William Williams Collection No. 30. New York Public Library, Local History and Genealogy Division.



9. South and east elevations, view northwest, 1911-13, Edwin Levick, photographer. William Williams Collection No. 17. New York Public Library, Local History and Genealogy Division.



10. South elevation, west wing, view west, 1911-13, Edwin Levick, photographer. William Williams Collection No. 15. New York Public Library, Local History and Genealogy Division.



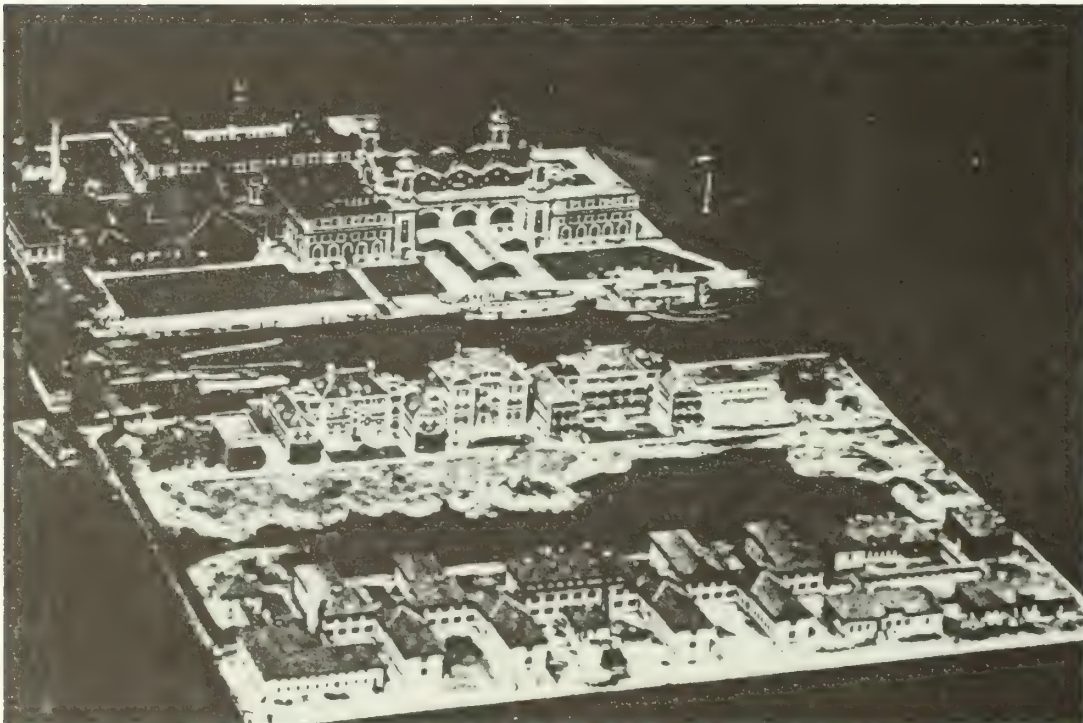
11. Roof garden, east wing, view east, 1909-13, Edwin Levick, photographer. William Williams Collection No. 14. New York Public Library, Local History and Genealogy Division.



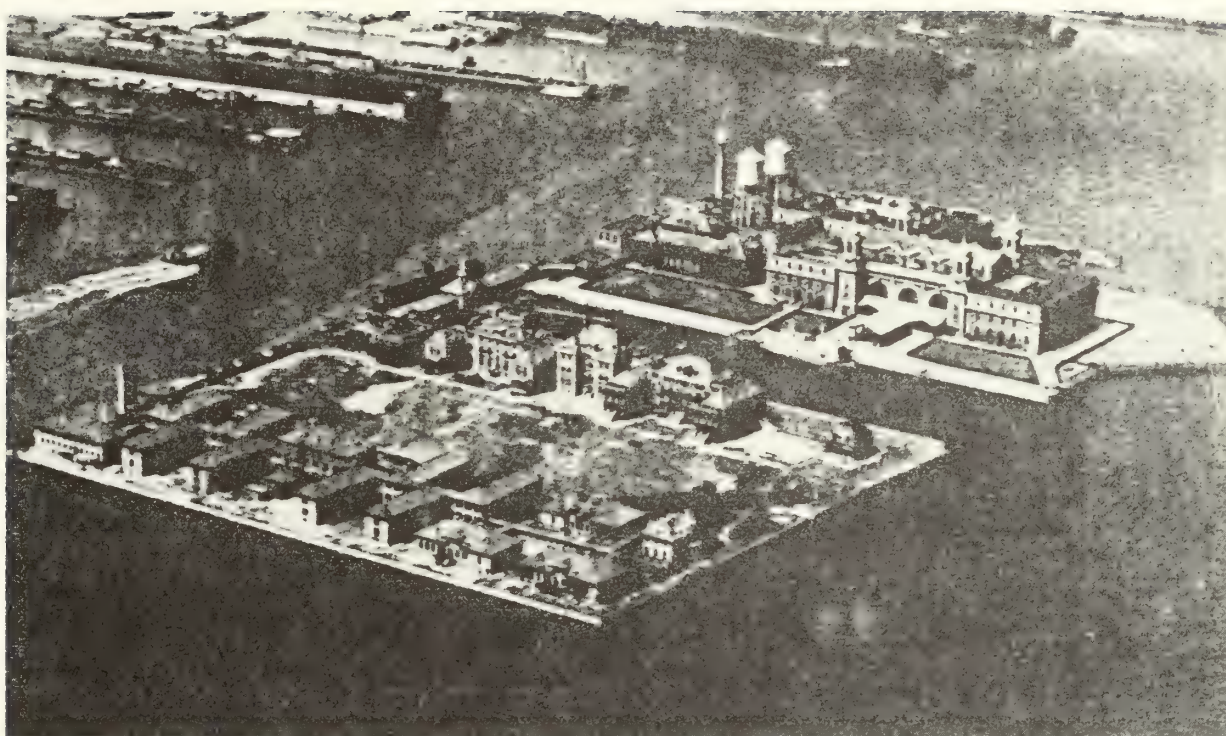
12. West wing; kitchen and laundry building and corridor at left, view northeast, September 3, 1913. Powderly Papers and Photographs. Department of Archives and Manuscripts, The Catholic University of America.



13. North and east elevations and railroad ticket office; baggage and dormitory building at right; view southwest, 1911-13. William Williams Papers, Vol. II, p. 58 (back), New York Public Library, Manuscripts and Archives Division.



14. Aerial view of Ellis Island, view northeast, 1920's. Source unknown.



15. Aerial view of Ellis Island, view northwest, 1930-1931. Collection of Welcome to N.Y.C.

2. Interior Photographs

Interior photographs were analyzed in conjunction with archival drawings and with knowledge of actual field conditions. As a result it was possible to identify specific rooms and approximate dates (in cases where definite dates were unknown). For some of the large public spaces (i.e., registry room, baggage room) it was possible to assemble a group of photographs depicting the room in a number of different periods.

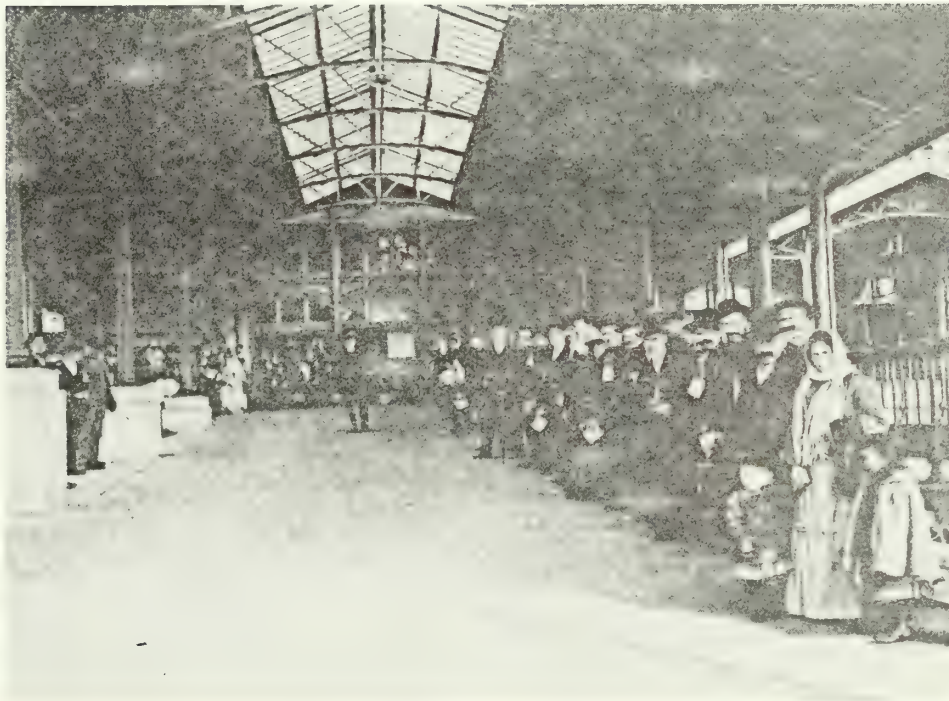
Following is a list of rooms that we have identified and copies of the photographs.

As BBB/ANF and interpretive researchers for the NPS uncover additional data, it is expected that this list will be expanded. These photographs can be of great value in developing the preservation plans as well as in the design of interpretive exhibits.

Historic Photographs

| <u>Room</u> | <u>Use</u> | <u>Date(s)</u> |
|---------------------------------|---|---|
| Canopy | shelter; medical | 1909-early 1911, pre-1911, post- 1911, 1911-12, 1913, 1923 |
| 115/H105 | information division | 1909-12 |
| Railroad Ticket office (121) | railroad ticket office; money exchange | 1902-12, 1914, 1921, post-1924, 1926, n.d |
| Baggage room (128) | baggage room; waiting room; seamen's quarters; German enemy aliens; Coast Guard dormitory | 1902, 1909, 1926, WW II, 1951 |
| 137 | railroad waiting room; lavatory | 1905, 1940's |
| 138, 152, 158 or 159 | medical | post-1911 |
| 152 | medical | post-1911 |
| 201 (?) | detention room; excluded women | 1902 |
| 202-208, H201 | dining hall | 1902 |
| 210/211 | special inquiry board room | 1910-13 |
| 227 | special inquiry board room | n.d. |
| 223 | special inquiry detention | 1907-23 |
| Registry room (231) | examination room; registry division; facilities for German enemy aliens; recreation room | 1901, 1902, 1903-07, 1904, 1909-11, 1912, 1912-13, 1912-17, 1916, ca. 1918, 1918-24, 1934, WW II, 1949, 1951 |

| <u>Room</u> | <u>Use</u> | <u>Date(s)</u> |
|--------------|--|----------------|
| 303 | special inquiry; seamen's sleeping quarters | 1911-13, WW II |
| 308 | women's dormitory; game and recreation room for enemy alien detainees | 1940's |
| H309 or H314 | registry room balcony | 1909-13 |



1. Canopy, view north towards original entrance, 1909-early 1911, Edwin Levick, photographer. William Williams Collection No.2. New York Public Library, Local History and Genealogy Division.



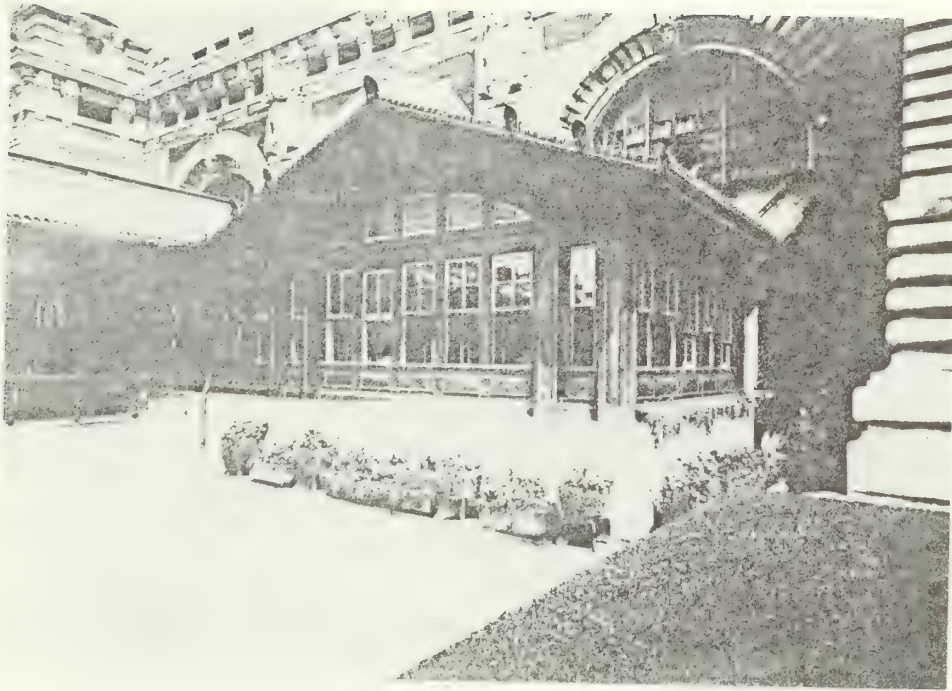
2. Canopy, view northeast, pre-1911. National Archives.



3. Canopy, view northeast, post-1911. Library of Congress.



4. Canopy, "Examining eyes", post-1911. National Archives, Audiovisual Archives Division, Still Picture Branch.



5. Canopy, view north, 1911-1913. Edwin Levick, photographer. William Williams Collection No.6. New York Public Library, Local History and Genealogy Division.



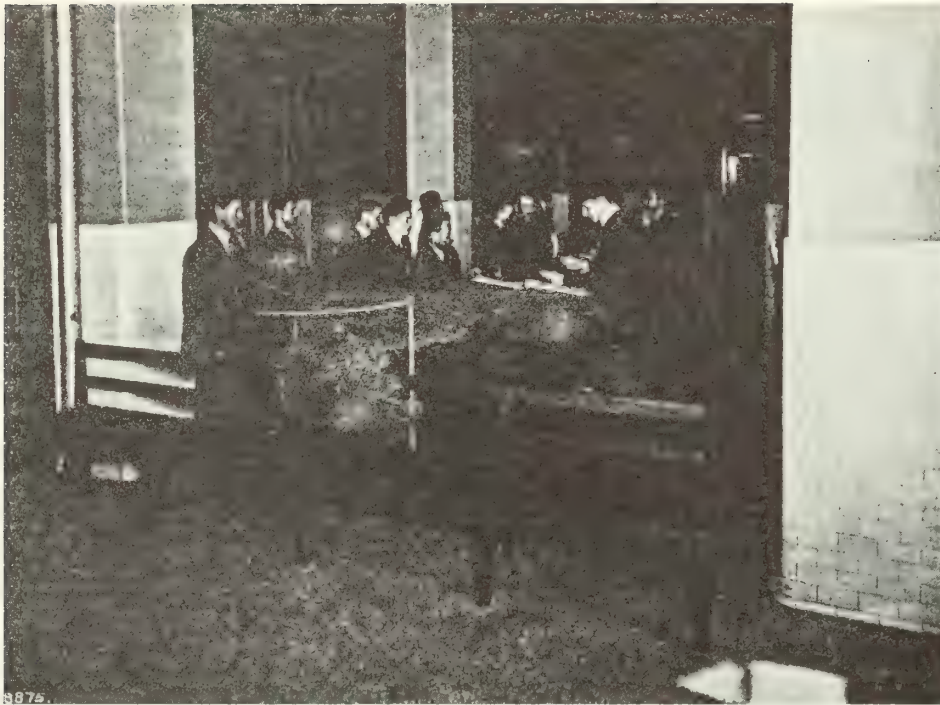
6. Canopy, view north, "Immigrants Leaving Barges and Entering Station", September 26, 1913. Powderly Papers and Photographs. Department of Archives and Manuscripts, The Catholic University of America.



7. Canopy, view west, "Immigrants Leaving Barges and Entering Station", September 26, 1913. Powderly Papers and Photographs. Department of Archives and Manuscripts, The Catholic University of America.



8. Canopy, "Line inspection of arriving aliens", 1923, Sy Seidman, photographer. National Archives, Audiovisual Division, Still Picture Branch



9. Room 115/Hall 105, view northeast, information division(?)
Edwin Levick, photographer. William Williams Collection
No. 7, 1909-13, New York Public Library, Local History
and Genealogy Division.



10. Railroad ticket office, view west, 1909-13. Edwin
Levick, photographer. William Williams Collection
No. 25, New York Public Library, Local History and
Genealogy Division.



11. Railroad ticket office, northwest corner, 1909-1913, Edwin Levick, photographer. William Williams Collection No. 4 , New York Public Library, Local History and Genealogy Division.



12. Railroad ticket office, Annual Report, International Bible Society, 1914.



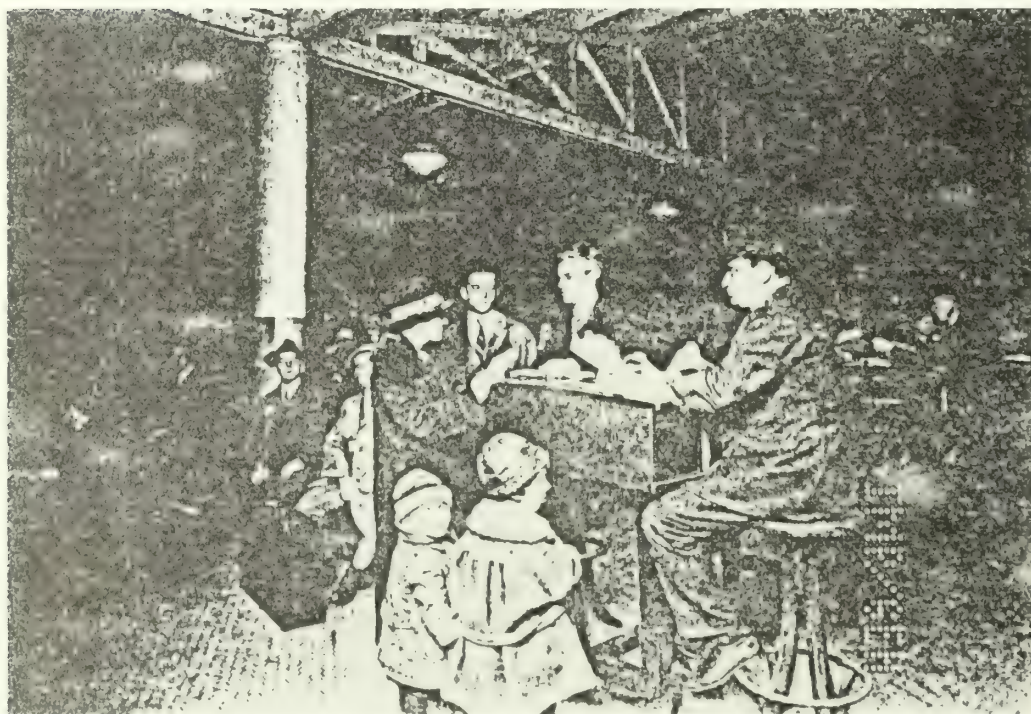
13. Railroad ticket office, counter, August 29, 1921. Culver Pictures Inc.



14. Railroad ticket office, post-1924. Bettmann Archive, New York.



15. Railroad ticket office, post-1924. United Methodist.



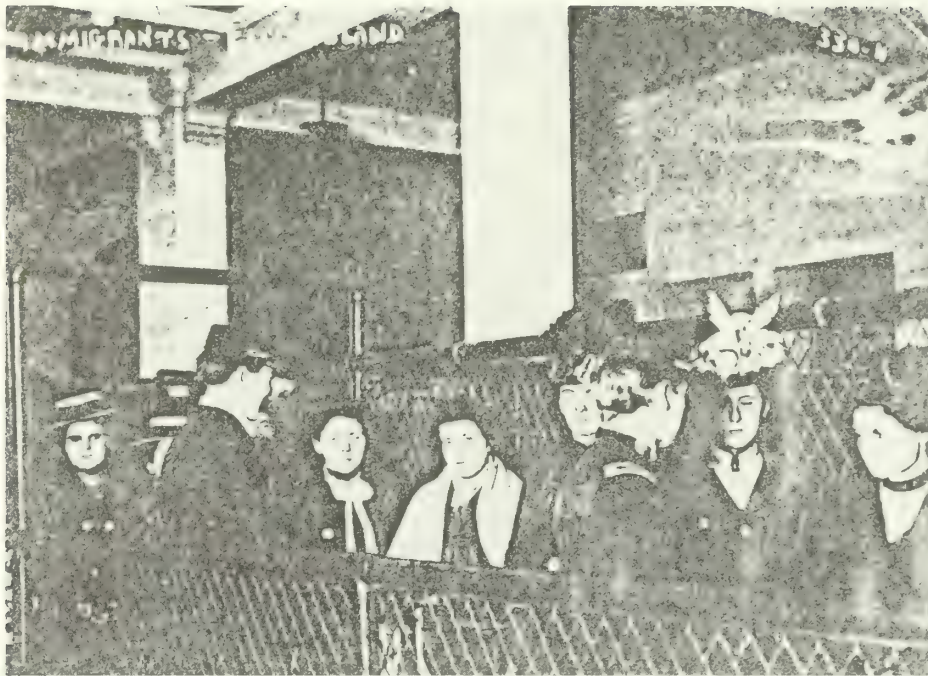
16. Railroad ticket office, "Interpreter and Recorder", 1926.
Lewis Wickes Hine, photographer. George Eastman House.



17. Railroad ticket office, no date. National Archives.



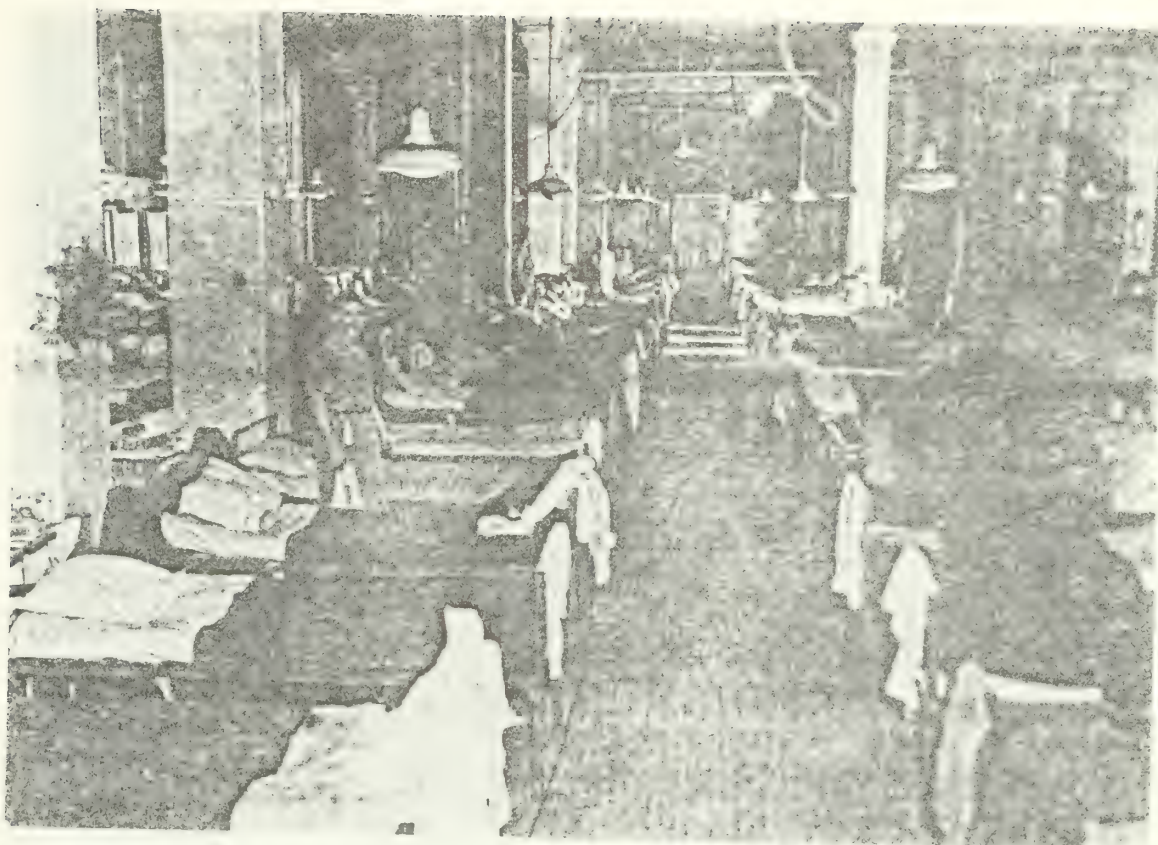
18. Baggage room, west wall, from "Quarantine Sketches", a pamphlet published as advertising by the Maltine Company for distribution to physicians, 1902. Library of Congress.



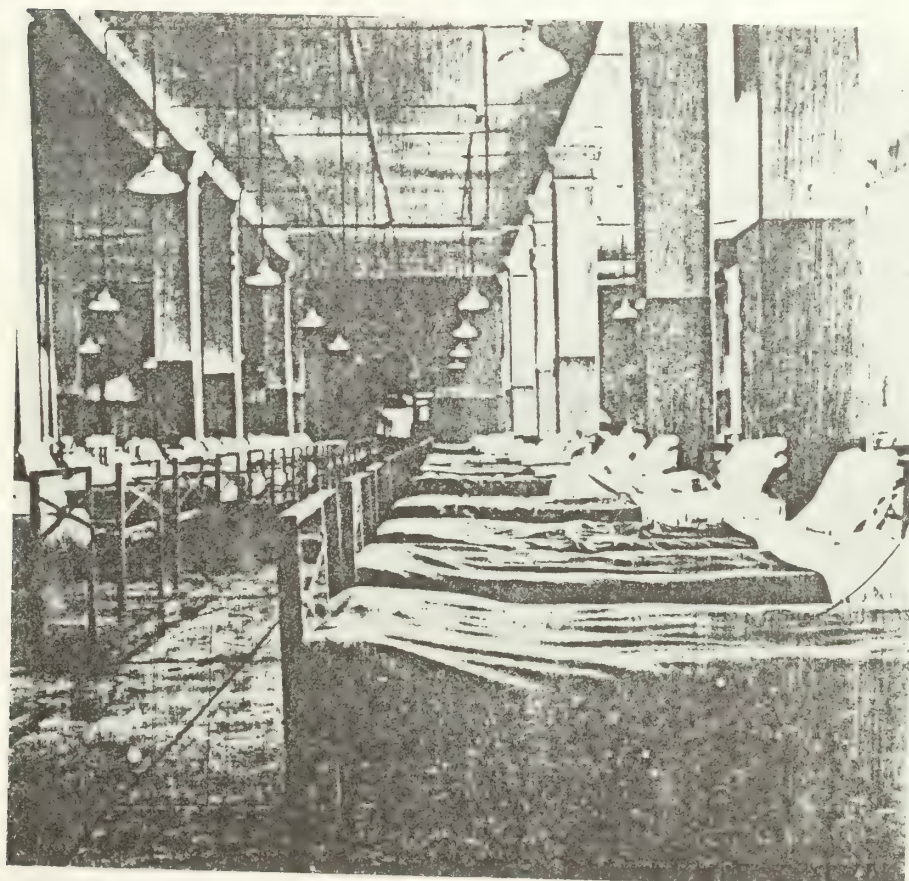
19. Baggage room, 1909. Culver Pictures Inc.



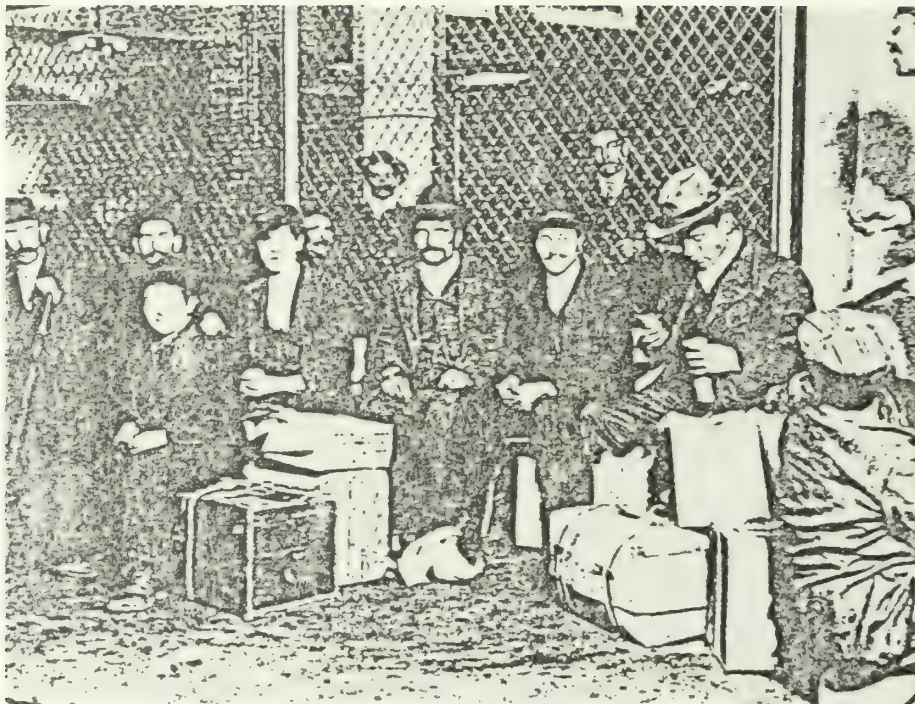
20. Baggage room, view northwest, "Refreshments, awaiting examination, noon hour, June 1, 1926". National Archives.



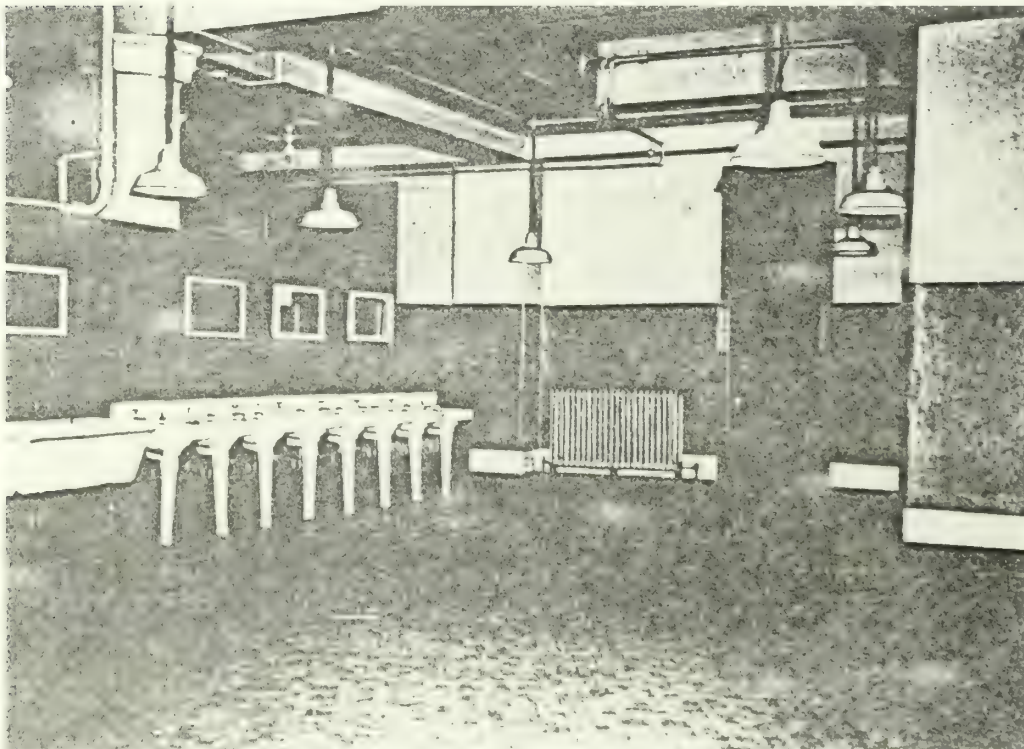
21. Baggage room, seamen's quarter's, German enemy aliens, WWII.
U.S. Immigration and Naturalization Service.



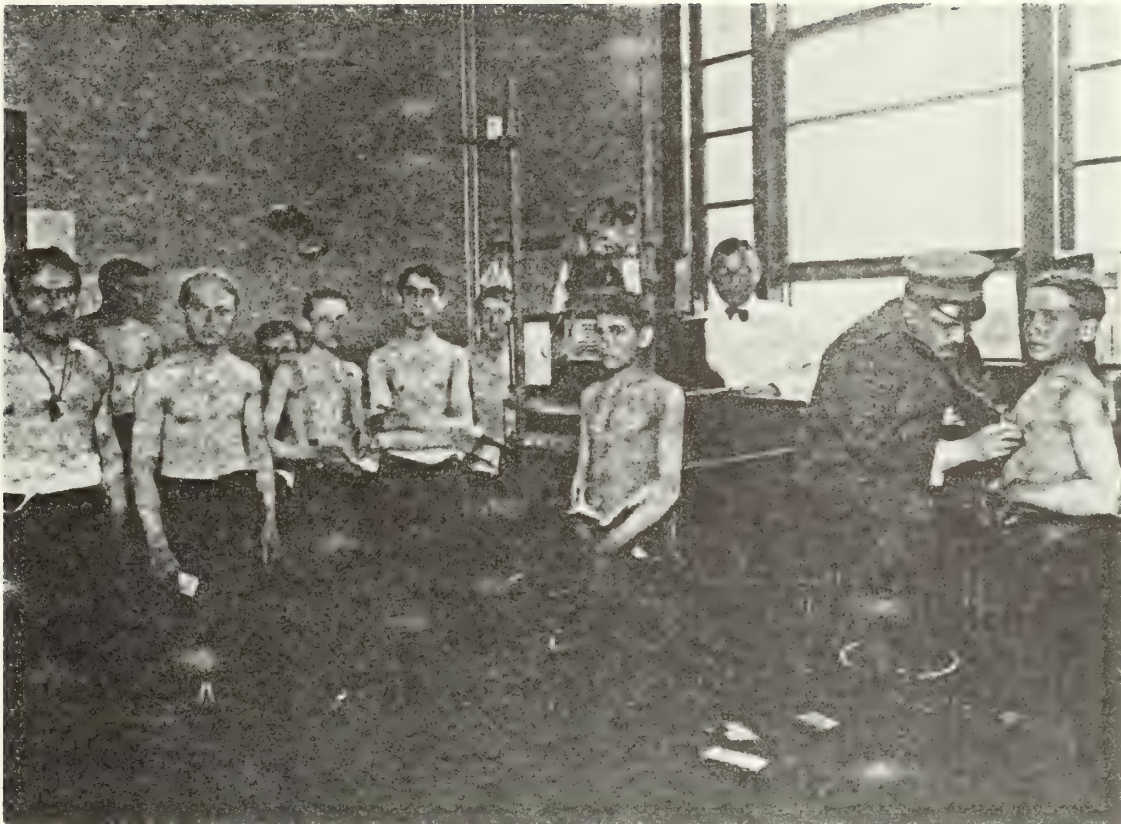
22. Baggage room, Coast Guard dormitory, 1951, Erika, photo-
grapher, Photoworld, Inc.



23. Railroad waiting room, 1905, Lewis Hine, photographer. New York Public Library, Local History and Genealogy Division.



24. Room 137, view southwest, lavatory, 1940's.



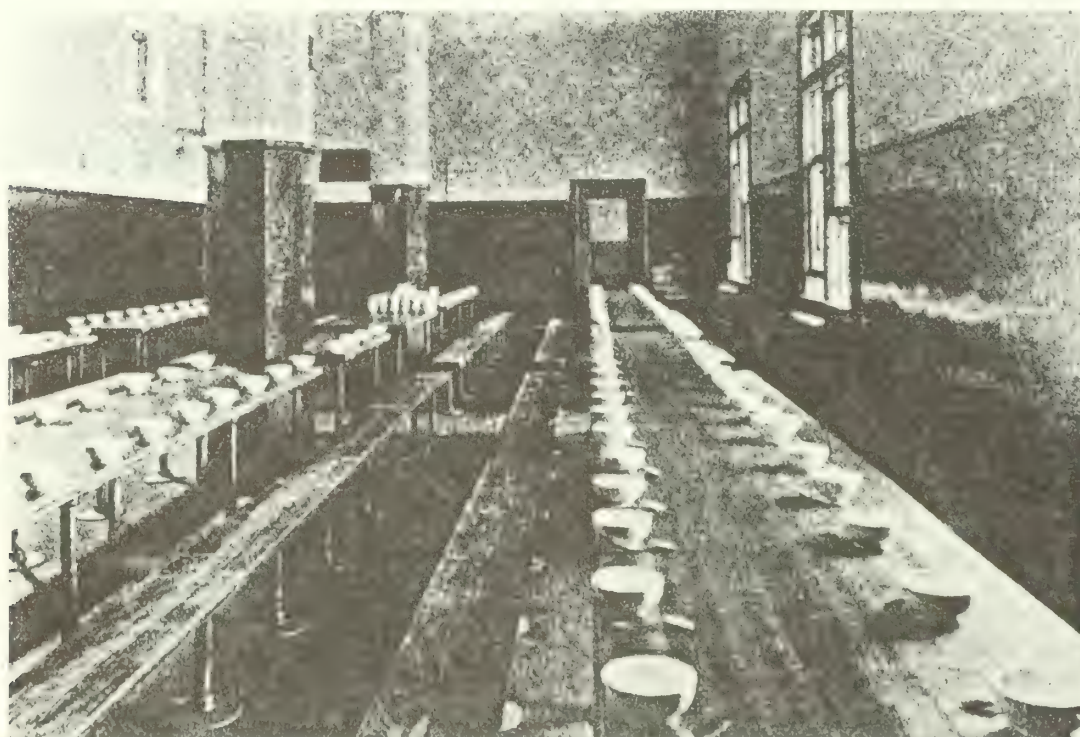
25. First floor east wing, room 138, 152, or 159, medical examination, post-1911. Brown Brothers, National Archives. Audiovisual Archives Division, Still Pictures Branch.



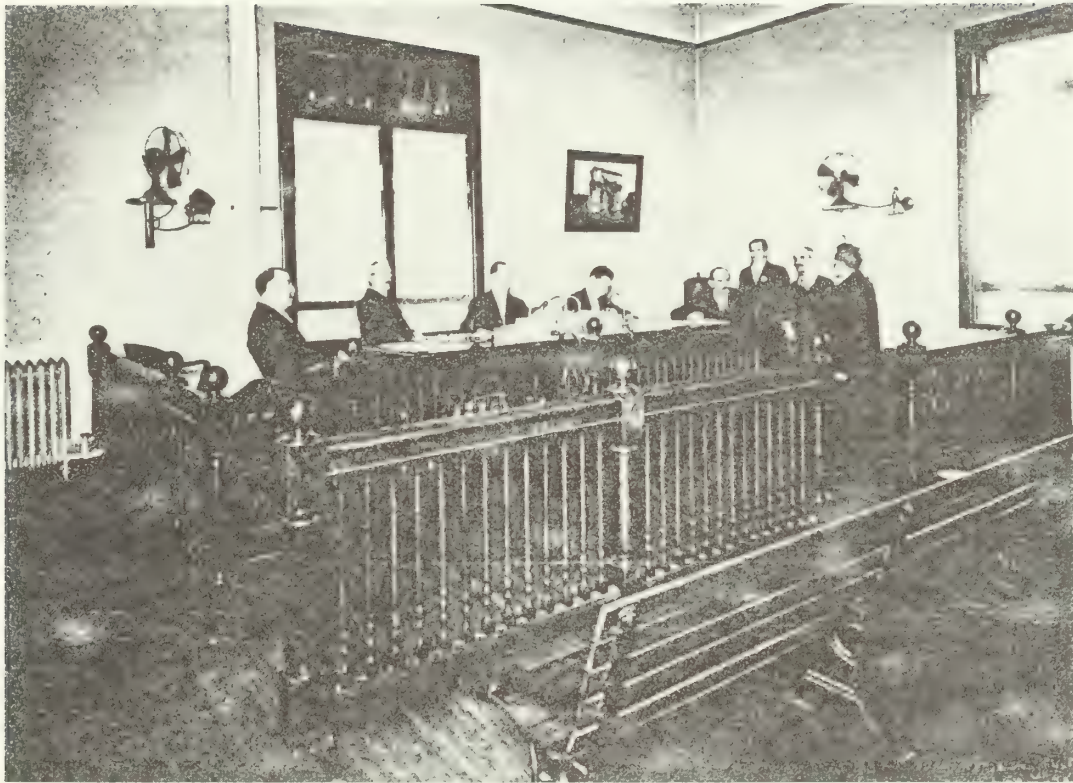
26. Room 152, view southwest, medical examination, post-1911. Sherman Collection.



27. Room 201(?), Detention room, excluded women, view northeast, from "Quarantine Sketches", a pamphlet published as advertising by the Maltine Company for distribution to physicians, 1902. Library of Congress.



28. Dining hall (rooms 202-208, H201), view south, from "Quarantine Sketches", a pamphlet published as advertising by the Maltine Company for distribution to physicians, 1902. Library of Congress.



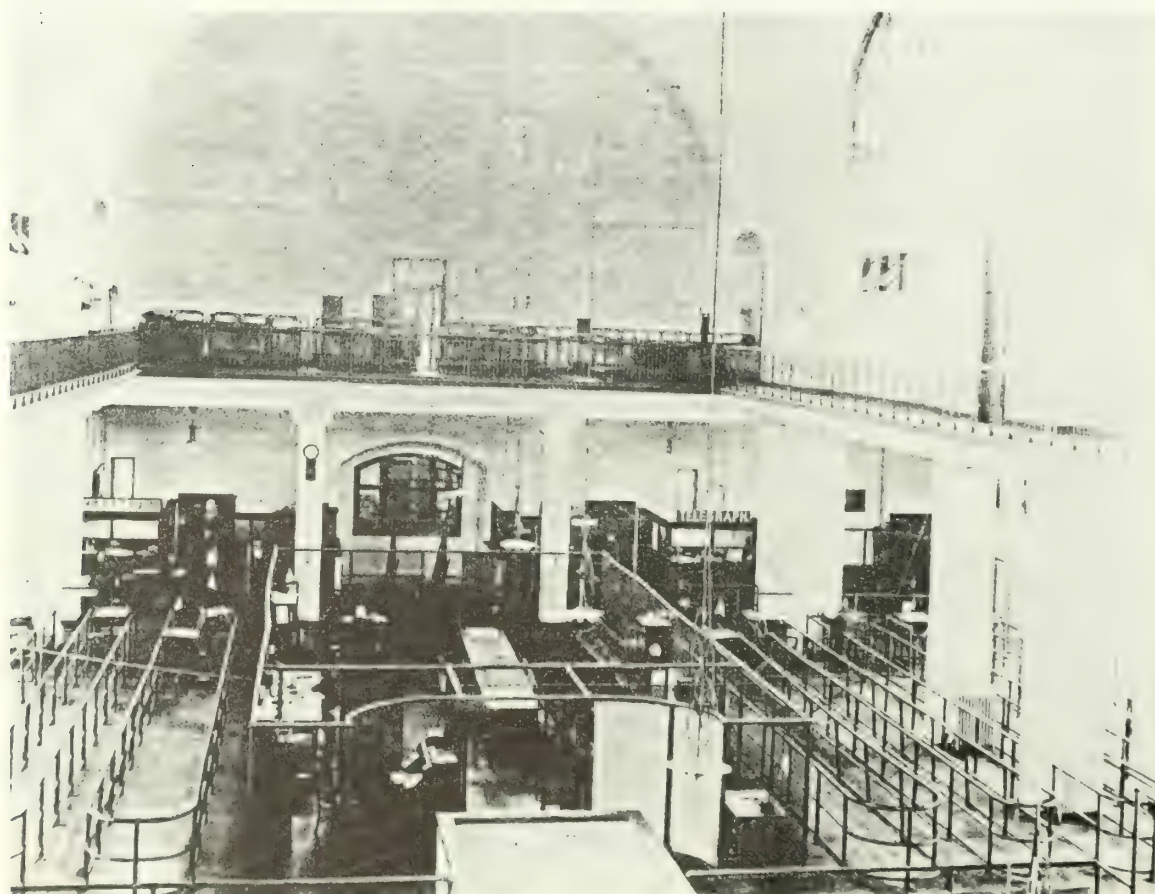
29. Rooms 210-211, view southwest, Board room, 1910-1913, William Williams Papers, New York Public Library, Vol. II, p. 20 (back), Manuscripts & Archives Division.



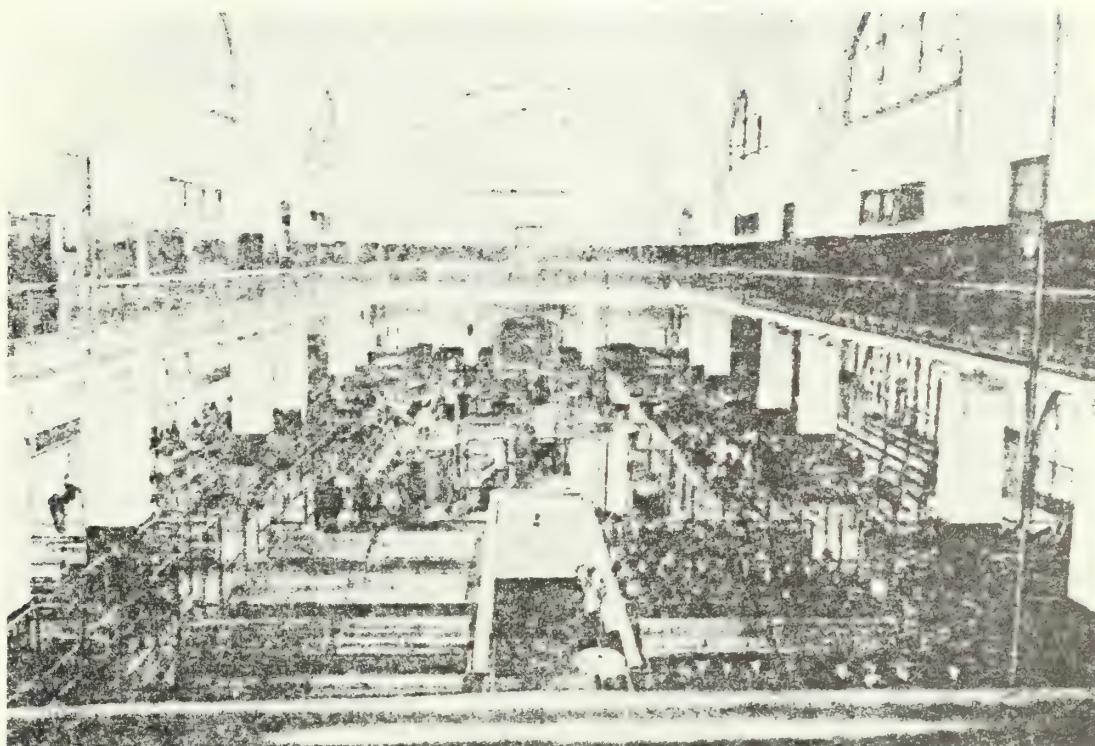
30. Room 227, Board of Special Inquiry. Brown Brothers, no date.



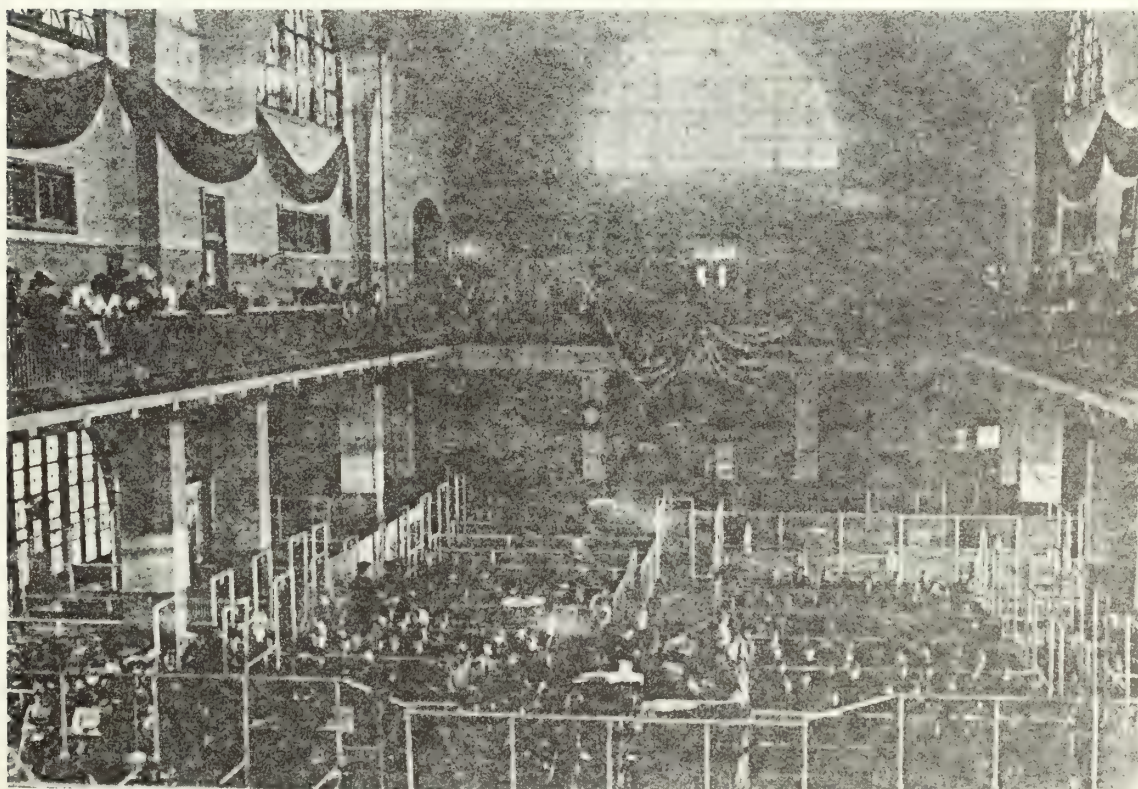
31. Room 233, view south, Special Inquiry Detention, 1907-1923, Photoworld.



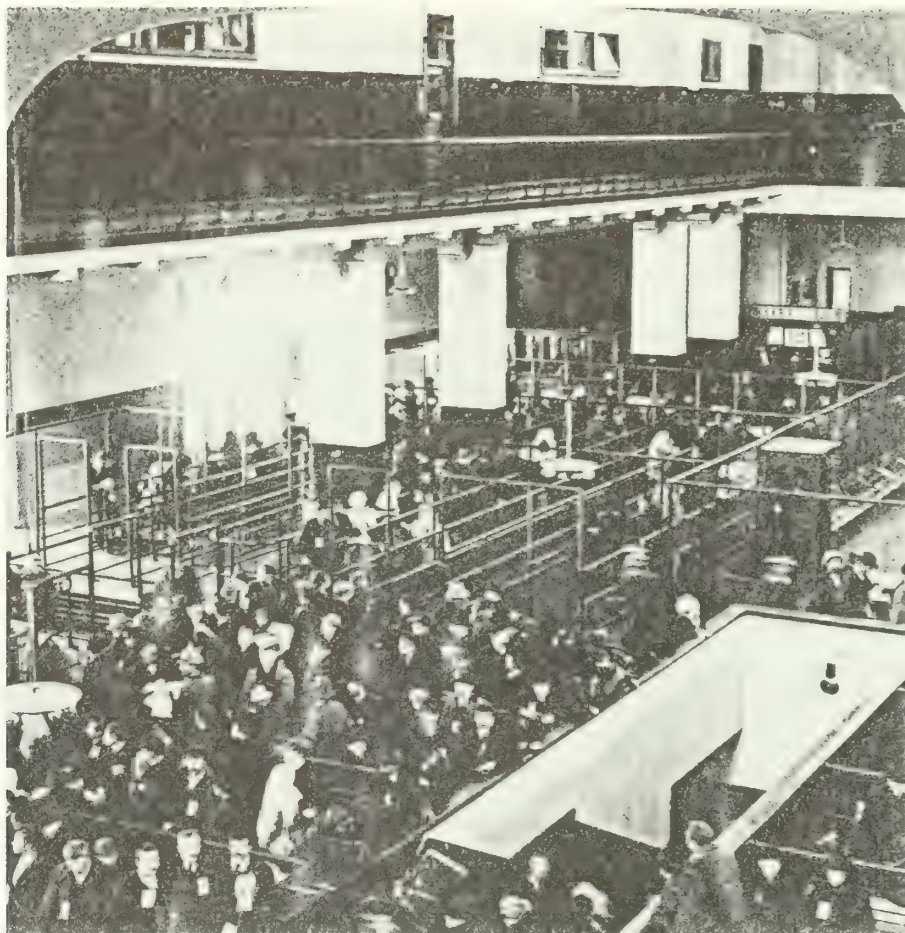
32. Registry room, view west, 1901, Powderly Papers and Photographs. Department of Archives and Manuscripts, The Catholic University of America.



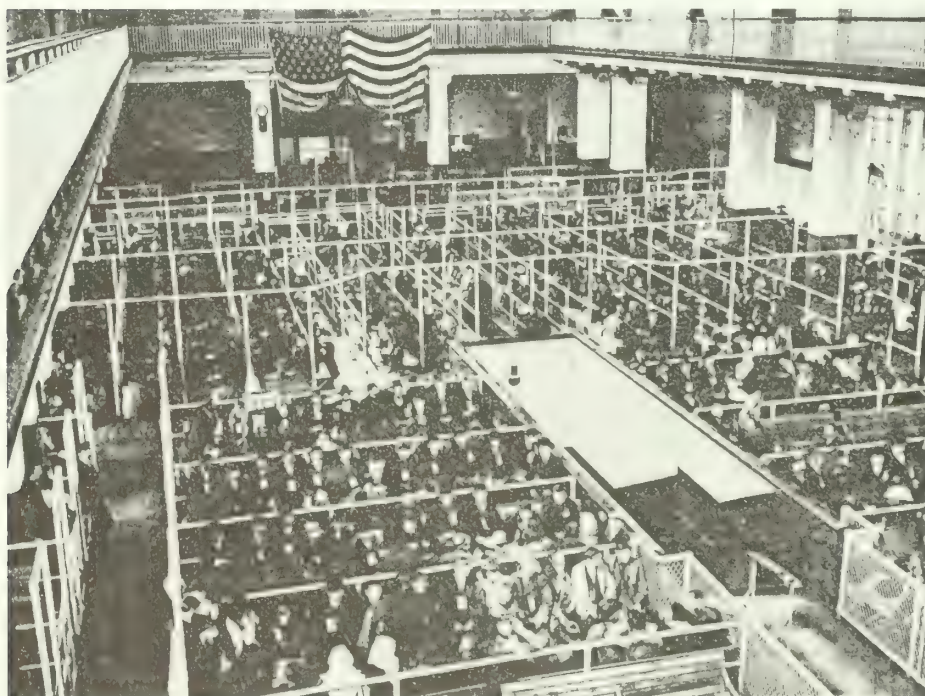
33. Registry room, view west, 1902, from "Quarantine Sketches", a pamphlet published as advertising by the Maltine Company for distribution to physicians, 1902. Library of Congress.



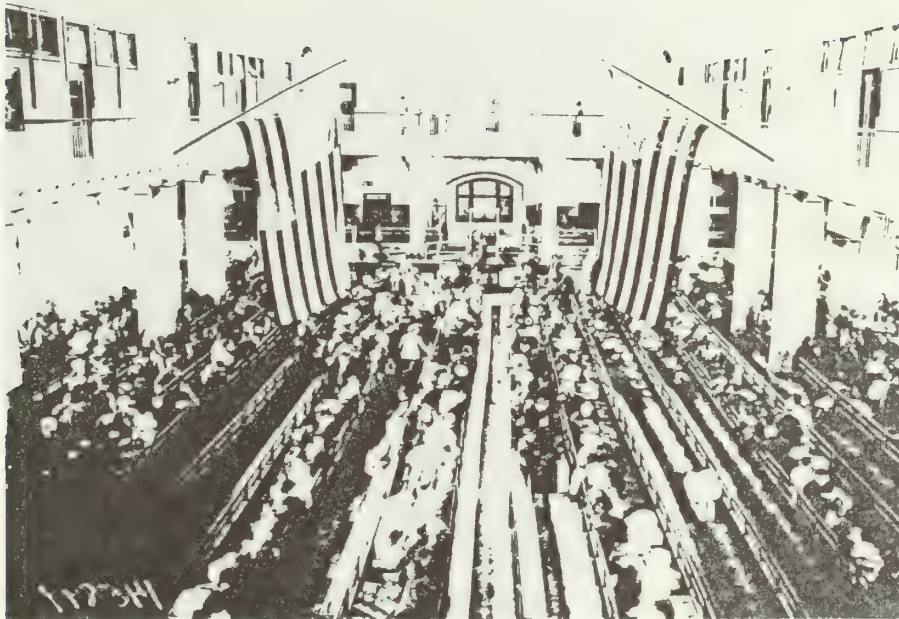
34. Registry room, view east, 1903-1907, Sherman Collection.



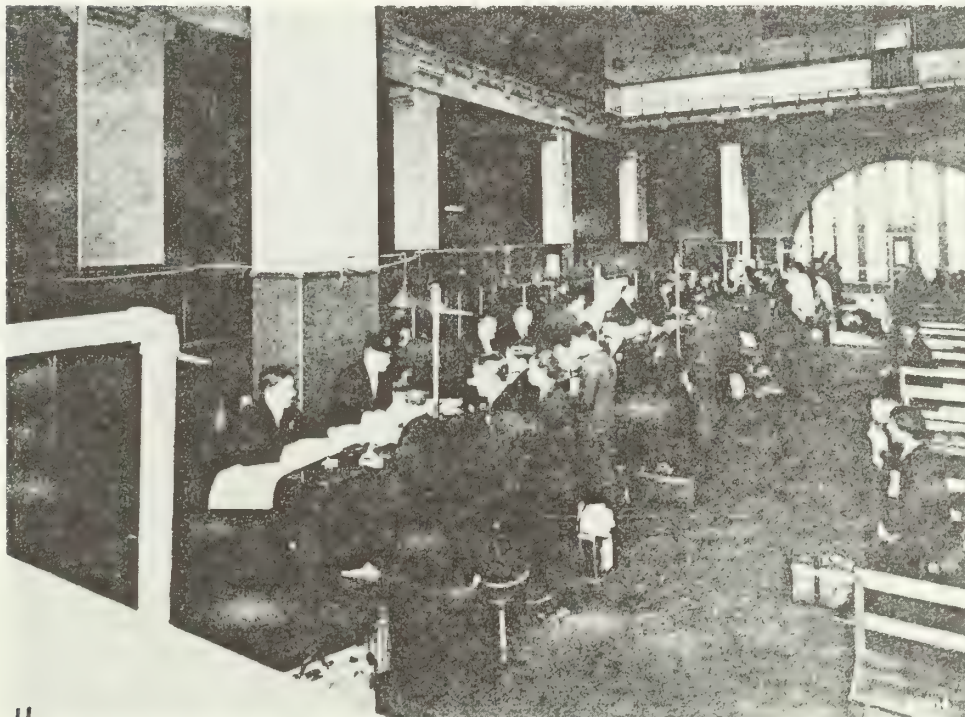
35. "Immigrants just arrived from Foreign Countries - Immigrant Building Ellis Island, New York Harbor", Underwood & Underwood, 1904. Library of Congress.



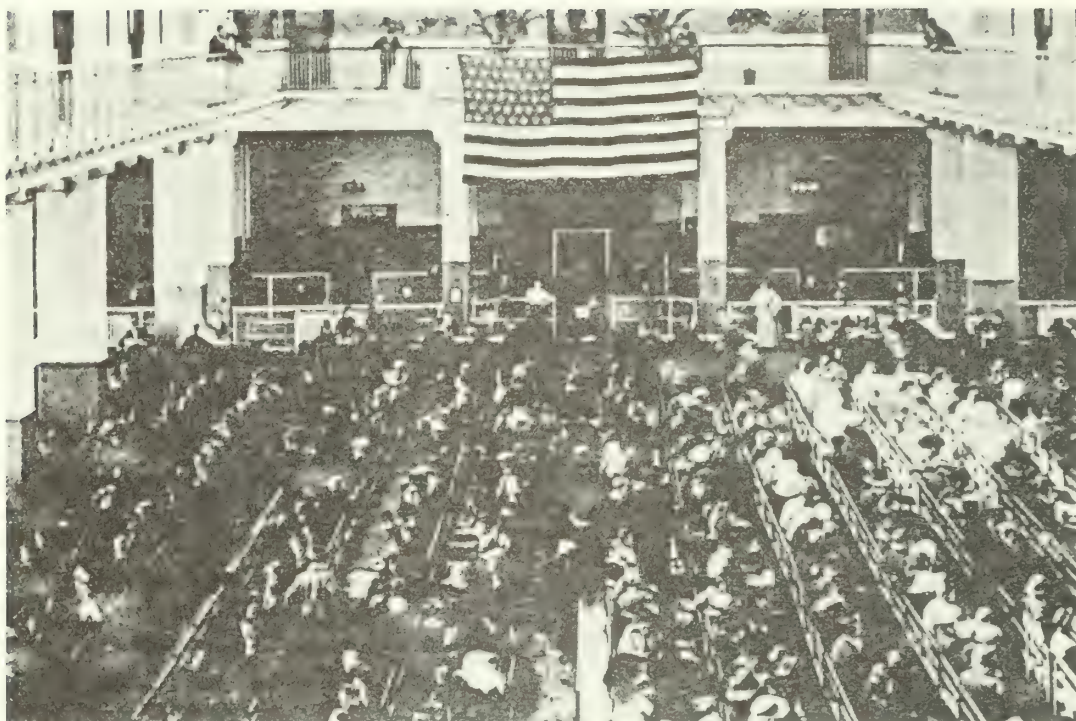
36. Registry room, view west, 1909-1911, William Williams Collection No. 1, New York Public Library, Local History and Genealogy Division.



37. Registry room, view west, 1912, Bettman Archive, Inc.



38. Registry room, west end, 1912-1913, William Williams Papers, New York Public Library, Vol. II, p. 20 (back), Manuscripts & Archives Division.



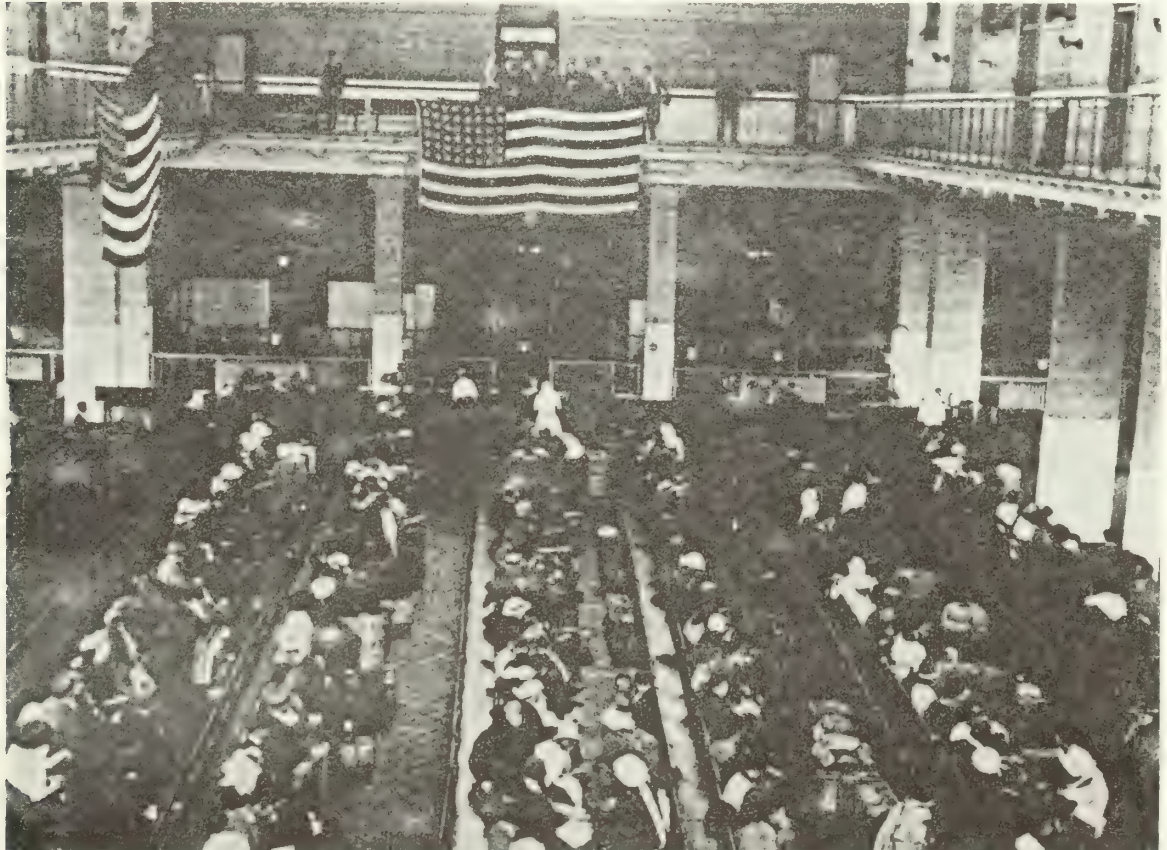
39. Registry room, view west, 1912-1917.



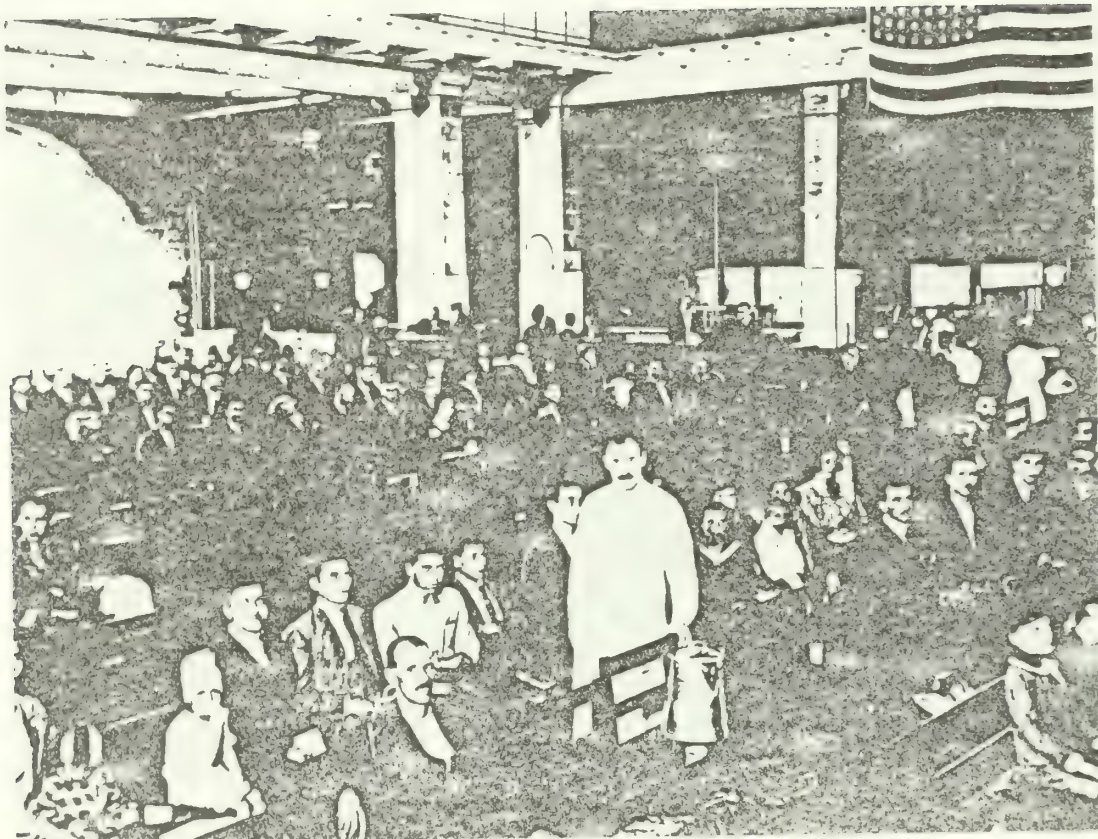
40. Registry room, view east, "Ukrainian Concert, Sunday 4 June 1916".
Sherman Collection.



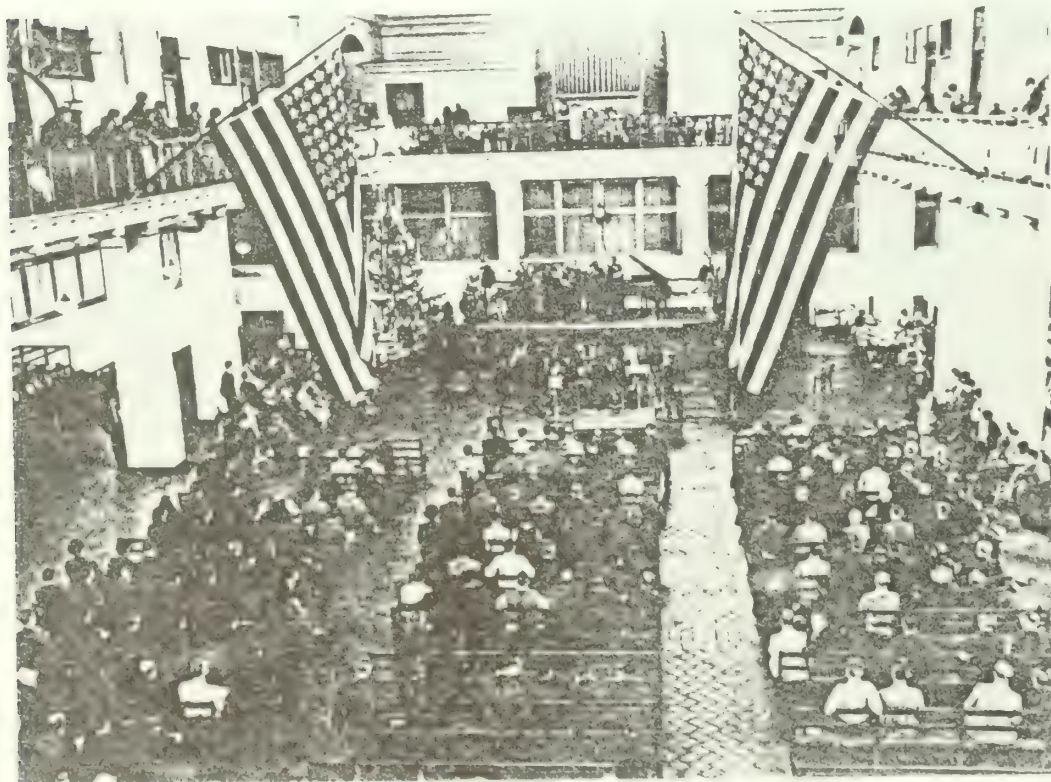
41. Registry room, dormitory/hospital facility, ca. 1918. Photoworld, Inc.



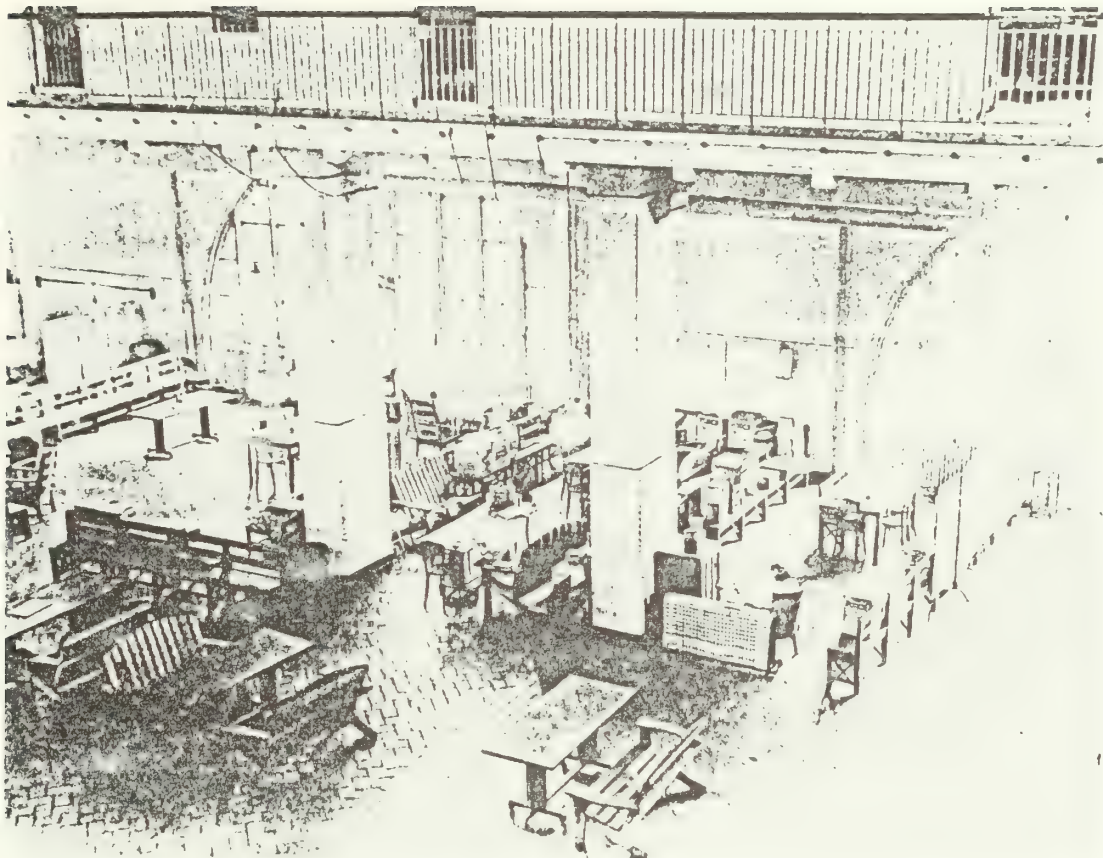
42. Registry room, view west, 1918-1924. U.S. Immigration & Naturalization Service.



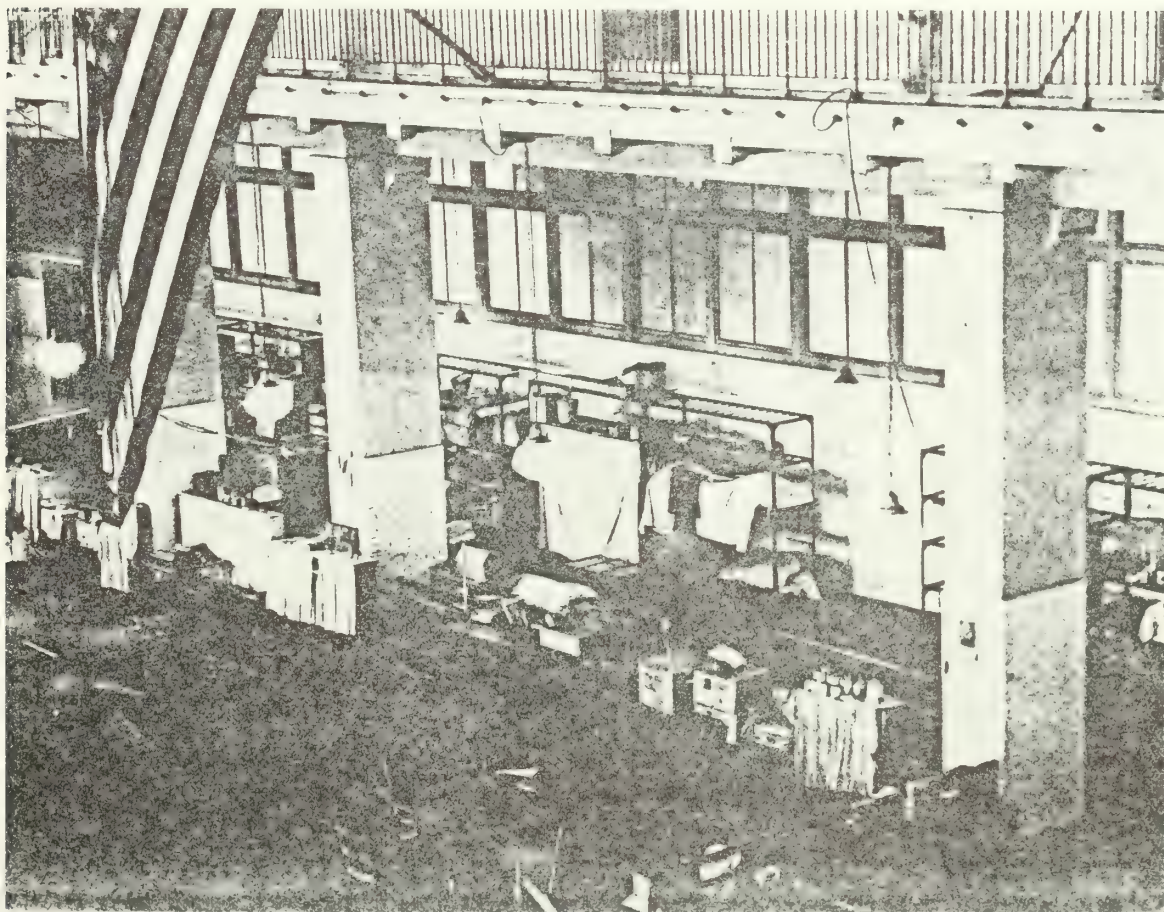
43. Registry room, 1918-1924.



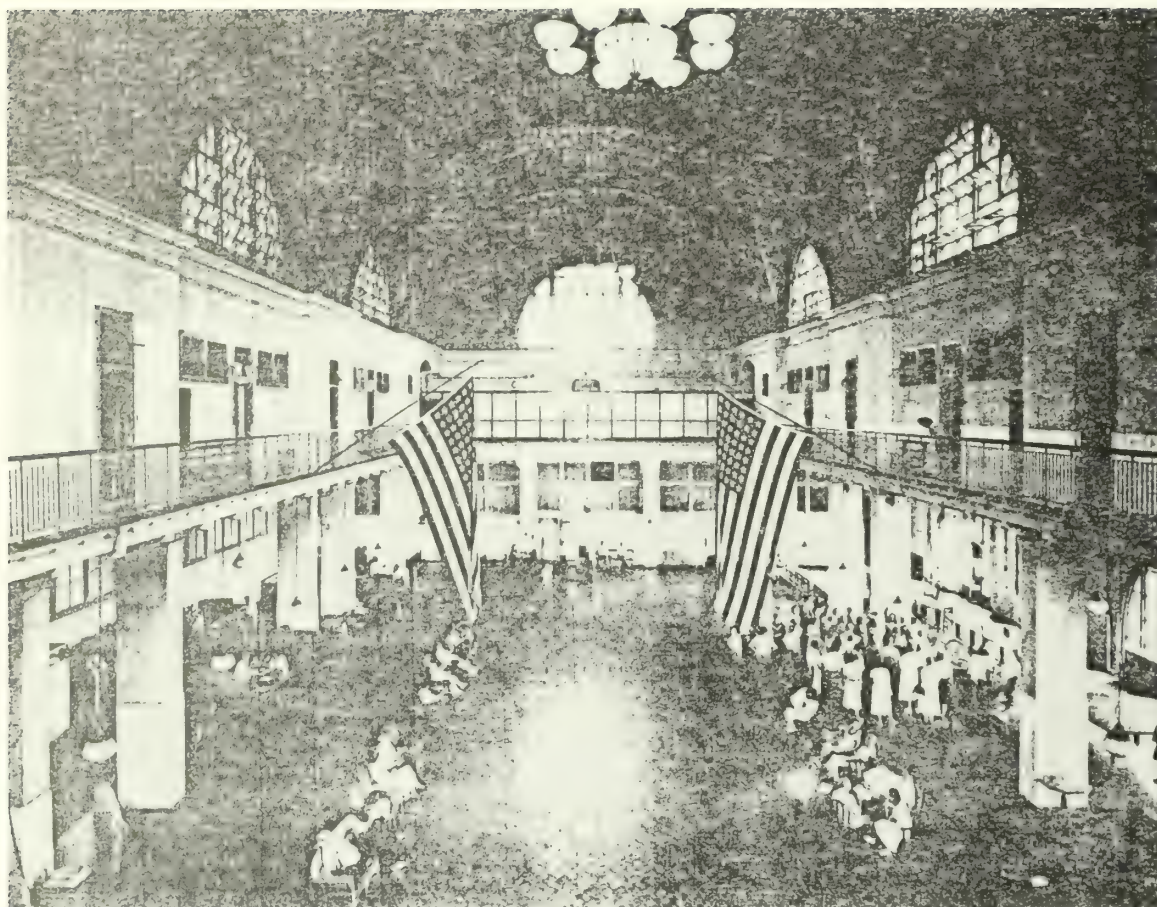
44. Registry room, view west, Christmas Party, December 24, 1934.
Associated Press.



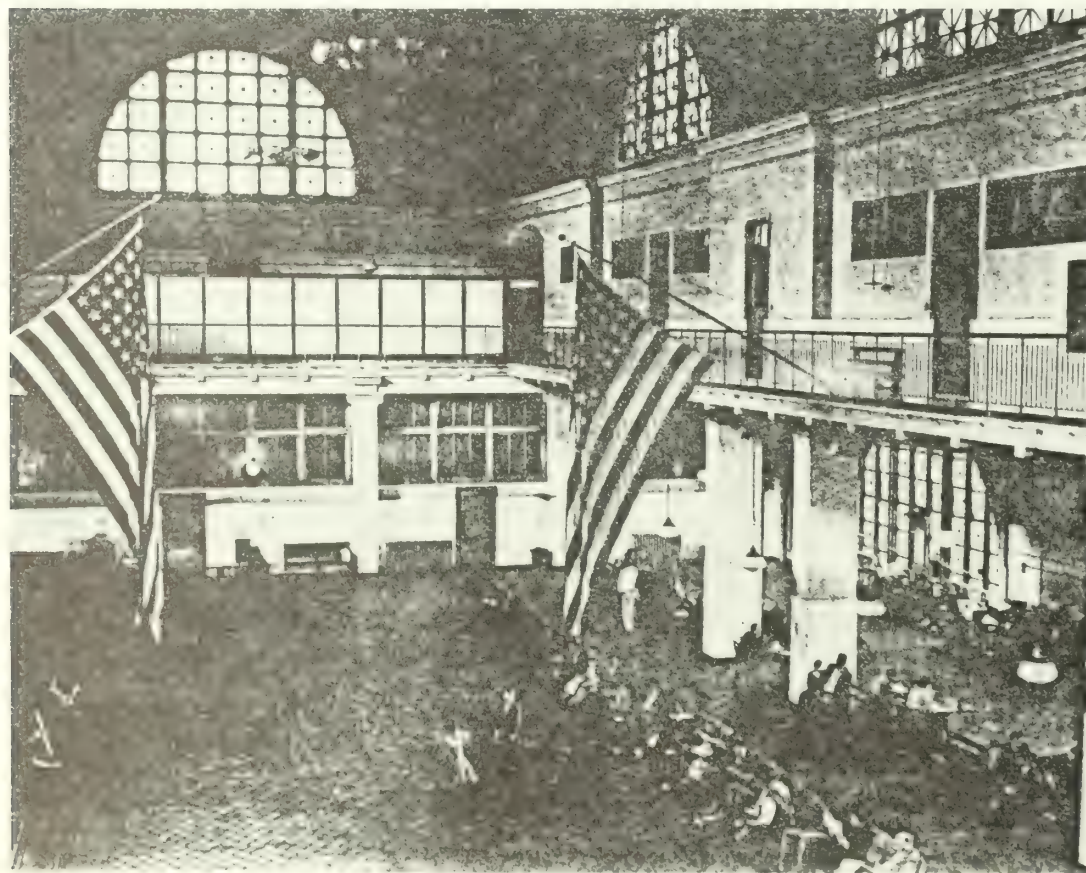
45. Registry room, view north, family area for German enemy aliens, WWII. U.S. Immigration & Naturalization Service.



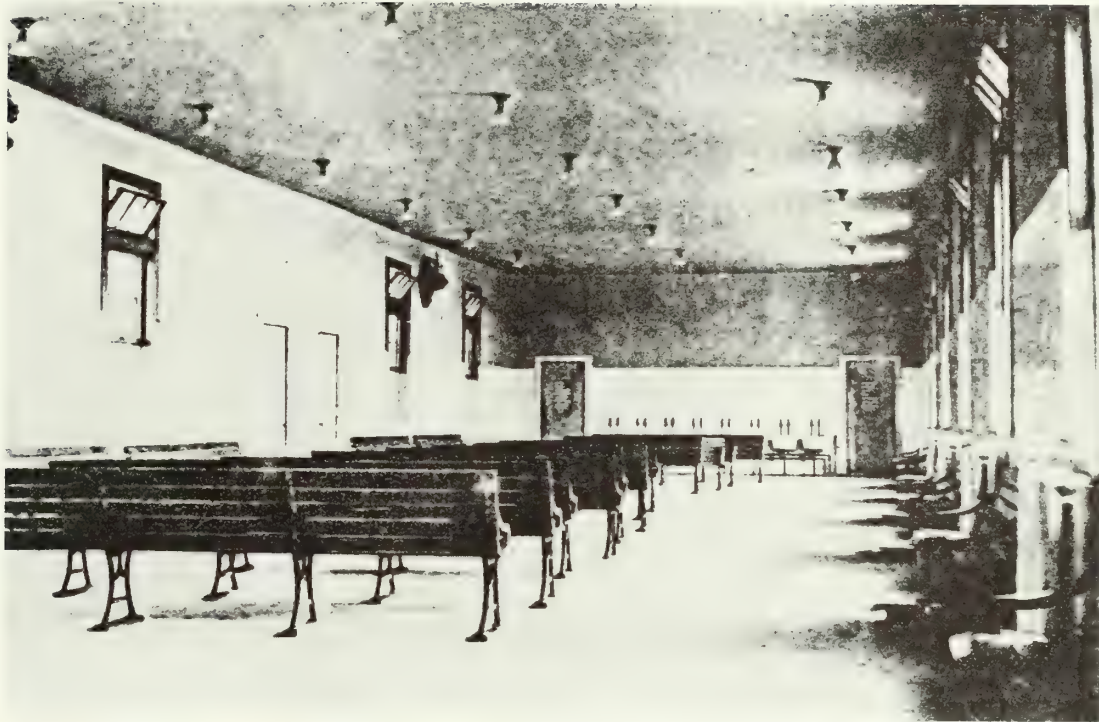
46. Registry room, view south, housekeeping facilities for German enemy aliens, WWII. U.S. Immigration & Naturalization Service.



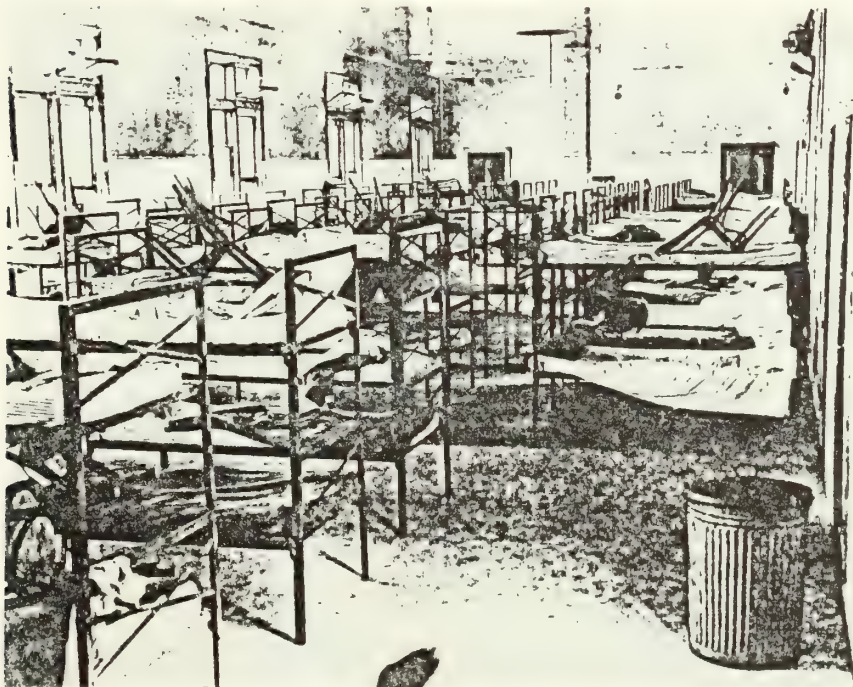
47. Registry room, view west, August 1949. National Archives.



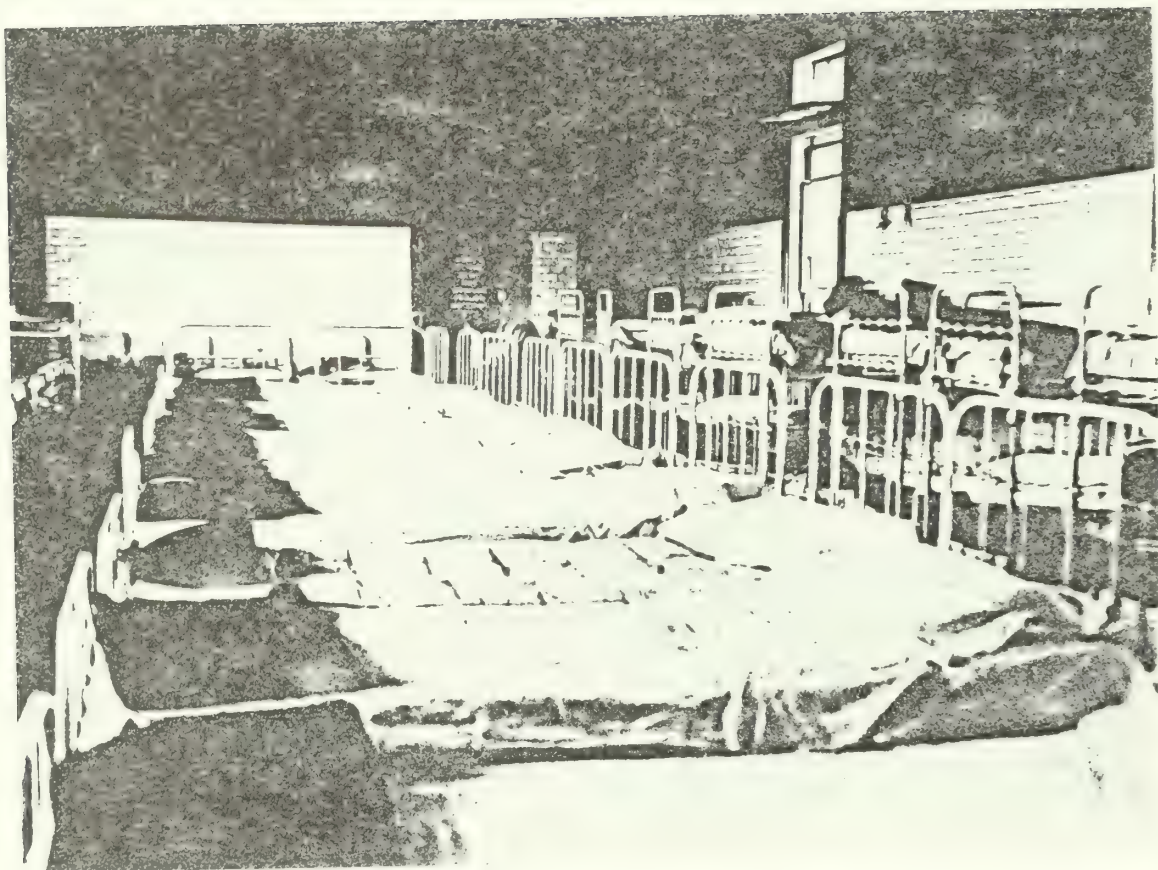
48. Registry room, view northwest, 1951, Erika, photographer.



49. Room 303, view south, Special Inquiry, 1911-1913. William Williams Papers, Vol. II, p. 58 (back), New York Public Library, Manuscripts & Archives Division.



50. Room 303, view north, Seamen's sleeping quarters, WWII. U.S. Immigration & Naturalization Service.



51. Room 308, view east, women's dormitory, 1940's, National Archives.



52. Room 308, view southeast, Game and recreation room, alien enemy detainees, late 1940's. U.S. Immigration and Naturalization Service.

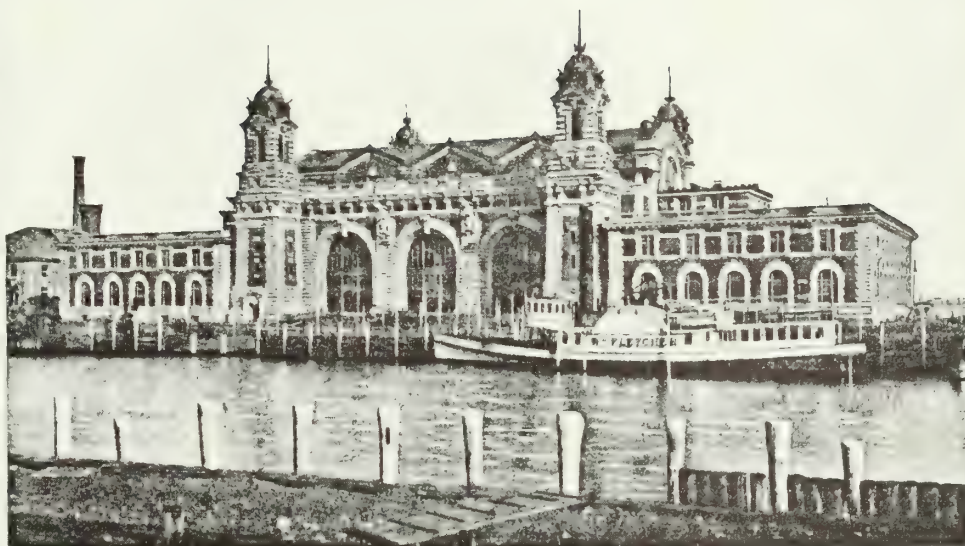


53. Registry room balcony (H309 or H314), 1909-1913, William Williams Papers, Vol. II, p. 58 (back). New York Public Library, Manuscripts & Archives Division.

3. Postcards

Postcards (generally tinted photographs) provide additional information on the historical appearance of the main building. The earliest view shows the building prior to the addition of the canopy. Later postcards depict the canopy and the addition of the wings. One postcard illustrates a ferry and baggage at the dock. Interior views document the railroad ticket office, the registry room, a board room, and a dormitory. Postcard series of Ellis Island, issued by D.T. Magowan, Maplewood, N.J. in 1925 and 1931, provide comprehensive views of the interior.

NO. 69--IMMIGRANT BUILDING, ELLIS ISLAND, N. Y. HARBOR. J. KOEHLER, N. Y.



1. ca. 1900. Collection of Fred Wasserman.



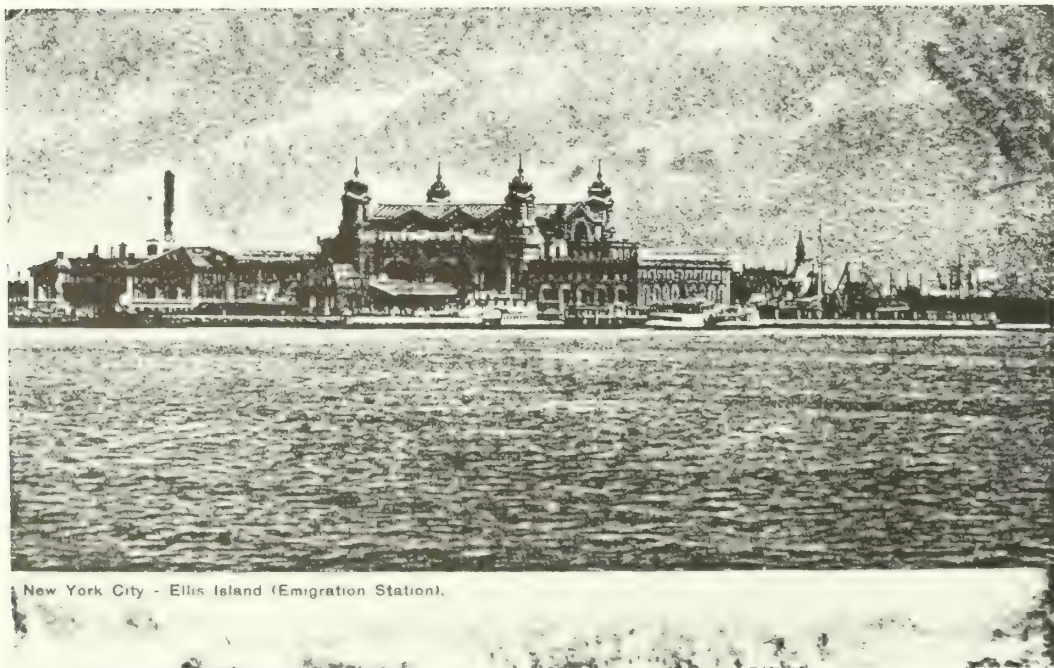
Ellis Island. New York

No. 134 Published by The American News Company, New York-Leipzig-Berlin

2. 1903-1907. Collection of Fred Wasserman.



3. 1903-1910. Collection of Fred Wasserman.



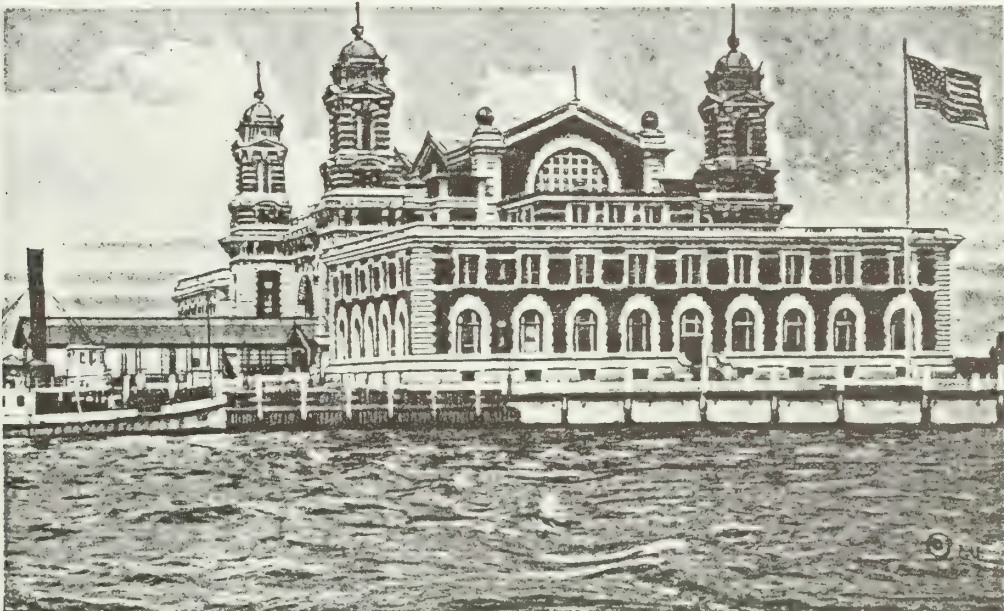
4. 1903-1910. Collection of Fred Wasserman.

Ellis Island, New York.



5. 1903-1910. Collection of Beyer Blinder Belle/Anderson Notter Finegold.

ELLIS ISLAND, NEW YORK CITY.



6. 1903-1910. Collection of Fred Wasserman.

Ellis Island, New York City.



7. 1911-1913. Collection of Beyer Blinder Belle/Anderson
Notter Finegold.

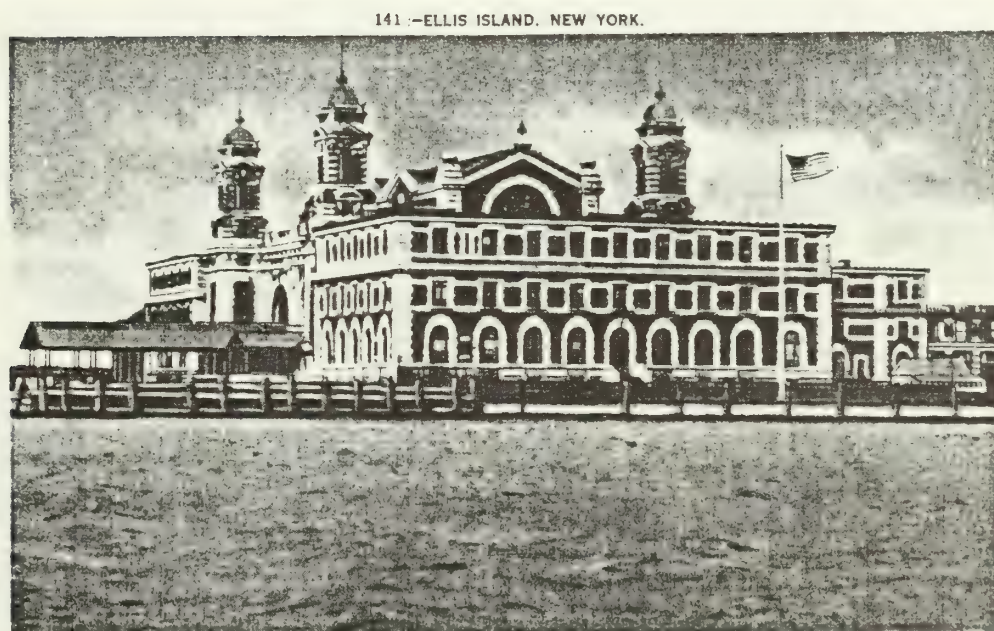
Ellis Island, New York City.



8. 1911-1913. Collection of Fred Wasserman.



9. 1911-1913. Collection of Fred Wasserman.



44521

10. Post-1915. Collection of Beyer Blinder Belle/Anderson Notter Finegold.



11. Published 1925. Collection of Alfred Cavalari, Esq.



12. Published 1925. Statue of Liberty Collection.



Seal of the City
of New York



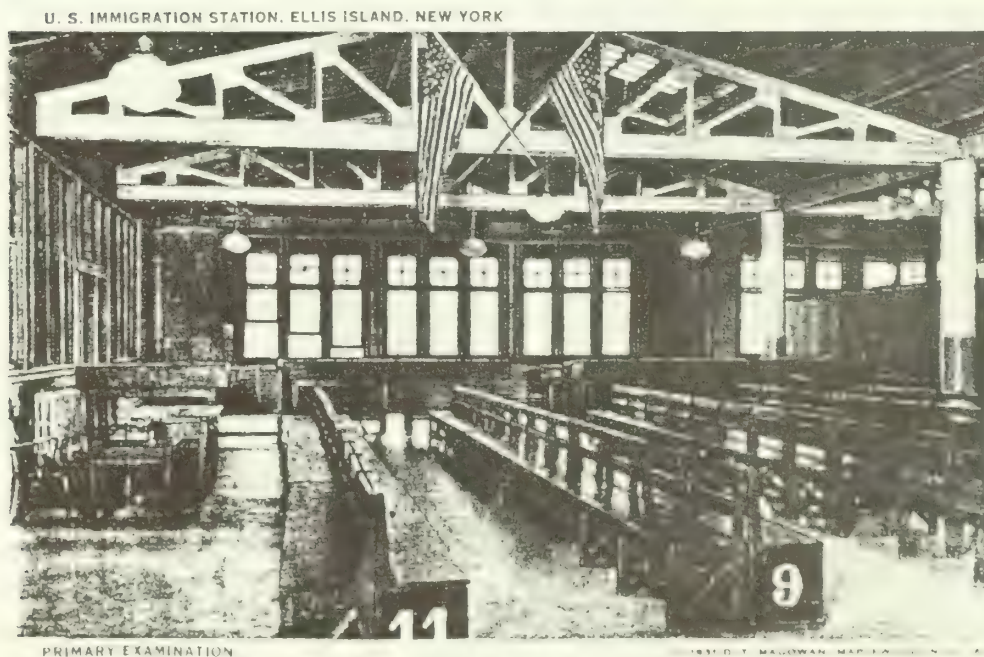
The City of New York
Department of City Planning
City Planning Commission
City Planning Board
City Planning Council

LANDMARKS OF NEW YORK CITY

13. 1940's. Collection of Fred Wasserman.



14. Railroad Ticket Office, view northwest, photo pre-1925, postcard published 1925. Collection of Alfred Cavallari, Esq.



15. Railroad Ticket Office, view north, published 1931. Statue of Liberty Collection.



Fig. 23. Registry Room, Ellis Island, N. Y. U. I.

16. Registry Room, view west, published 1905, Collection of Alfred Cavallari, Esq.



17. Registry Room, view south-west, published 1908.
Collection of Fred Wasserman.



18. Registry Room, view west, photo 1918-1924, postcard published 1925. Collection of Alfred Cavallari, Esq.



19. Registry Room, view west, published 1931. Statue of Liberty Collection.

U S IMMIGRATION STATION ELLIS ISLAND NEW YORK



BOARD OF SPECIAL INQUIRY

20. Board room, rooms 225/226, view south, published 1925.
Statue of Liberty Collection.

U S IMMIGRATION STATION ELLIS ISLAND NEW YORK



DORMITORIES

21. Dormitory, room 308, view southwest, published 1925.
Statue of Liberty Collection.

APPENDIX D: REGISTRY ROOM PHOTOGRAPHIC DOCUMENTATION

The following documentary photographs of the registry room were taken in October 1984 by photographer Steven Zane. Each was taken using a 4 x 5 Deardorff camera with a 65mm super angulon lens and Kodak Plus x film.

The photographs are rectified (taken with the picture plane parallel to the wall) and were of assistance in the delineating the registry room elevations.

The north and south elevation views represent consecutive overlapping views from right to left.



Registry room- looking west
October, 1983



Registry room- looking east
October, 1983



Registry room- south elevation,
section 1
October, 1983



Registry room- south elevation,
section 2
October, 1983



Registry room- south elevation,
section 3
October, 1983



Registry room- south elevation,
section 4
October, 1983



Registry room- south elevation,
section 5
October, 1983



Registry room- north elevation,
section 1
October, 1983



Registry room- north elevation
section 2
October, 1983



Registry room- north elevation,
section 3
October, 1983



Registry room- north elevation,
section 4
October, 1983



Registry room- north elevation,
section 5
October, 1983



Hallway 206- looking northwest
October, 1983



Hallway 206- looking south
October, 1983



Hallway 206- north end of west wall
October, 1983



Hallway 206- south end of west wall
October, 1983



Hallway 206- center of west wall
October, 1983



Hallway 314- looking north
October, 1983



Hallway 314- looking south
October, 1983



Hallway 309- looking north
October, 1983



Hallway 309- looking south
October, 1983



Hallway 309- looking east
October, 1983

APPENDIX E: COPPER ROOF RESTORATION

The following appendix is a reprint of a Preliminary Historic Structure Report for copper roof restoration and reconstruction work at the main building at Ellis Island. It was prepared by Peter F. Dessauer, architect of DSC/NPS. This historic structure report was done as part of an extensive set of DSC/NPS contract documents which will be incorporated into the exterior restoration contract document package produced by Beyer Blinder Belle/Anderson Notter Finegold, Associated Architects.

Since preparation of this document in March, 1983, there have been some scope changes to the overall roof restoration and reconstruction plans. Additional roof areas of the main building are slated for rehabilitation. Description of rehabilitation plans for other roof areas are described in the 'Exterior' section of the companion Historic Structure Report, June 1984.



PRELIMINARY HISTORIC STRUCTURE REPORT

ARCHITECTURAL DATA SECTION

COPPER ROOF RESTORATION

THE MAIN BUILDING, ELLIS ISLAND

STATUE OF LIBERTY NATIONAL MONUMENT

NEW YORK CITY HARBOR, NEW YORK

Prepared By

Peter F. Dessauer

DENVER SERVICE CENTER
BRANCH OF CULTURAL RESOURCES
MID-ATLANTIC/NORTH ATLANTIC TEAM
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR
DENVER, COLORADO
March 1983

TABLE OF CONTENTS

| | <u>Page Number</u> |
|--|--------------------|
| I. Introduction..... | 1 |
| II. Acknowledgements..... | 3 |
| III. Outline History..... | 4 |
| IV. Summary of Field Investigations..... | 12 |
| V. Restoration - Replacement and Reconstruction..... | 21 |
| VI. Recommendations..... | 27 |
| VII. Cost Analysis: "Class B"..... | 34 |
| VIII. Bibliographies..... | 38 |
| IX. Photographs..... | 41 |
| X. Drawings..... | 66 |

I. INTRODUCTION

In June 1982, under the package title, "No. 107, Ellis Island, Drawings and Specifications, Rehabilitate Main Building - Old Processing Center," direction was given to the Denver Service Center, Mid-Atlantic/North Atlantic Team, National Park Service, to begin research for the restoration of the Ellis Island Main Building. Denver Service Center (DSC) architect Judson Ball prepared a master task directive describing the project's proposed actions, schedule, funding, DSC team, and consultants. This master task directive was approved by Regional Director Cables in August at which time DSC project architects Peter Dessauer, Raymond Todd, and Sally Small began research to document existing conditions of the Main Building. In early September the architectural firm of Beyer, Blinder, and Belle (New York City) was selected by a DSC committee as the A/E for the total project work. At this point the DSC project architects limited their scope of research to the ornamental copper features on the Main Building roof with the goal of making contract documents for a separate copper construction project, to be bid and awarded in June 1983.

Aided by the advice and expertise volunteered to them by the Copper Development Association and Kenneth Lynch & Sons, Inc., the DSC project architects proceeded through autumn 1982 and winter/spring 1983 to finish research and complete construction documents for a restoration of the ornamental copper. In March 1983, the A/E firm proposed a construction timetable dividing the building into different work zones and contracts. It was decided that the copper work would be subdivided according to their plan. Thus, the intent of the DSC documents became one of provision of information to the A/E firm for their bid/contract packages and for any separate contracts which the Park Service might initiate for the commencement of the Centennial program.

This preliminary historic structure report is written as addendum material for the actual historic structure report covering the entire Main Building which is presently being researched and written by professionals in the A/E firm. Following an outline history, the DSC research is described in "Summary of Field Investigations" and proposals for new work in "Restoration - Replacement and Reconstruction." The section entitled "Recommendations" outlines further work to be done concerning copper on the Main Building and proposals for contracting and construction time. A cost analysis: Class "B" contains estimated quantities, unit prices, and total prices for specific areas of copper work.

At the time of the writing of this preliminary historic structure report, the Denver Service Center and the A/E firm are still in the process of negotiating their scope of work and professional relationship. However, it is understood by the parties involved that the DSC project architects shall continue to work on the Main Building and other structures on island No. 1 in cooperation with the A/E firm and will monitor their research, reports, drawings, and specifications.

II. ACKNOWLEDGEMENTS

I wish to acknowledge the contributions of the following persons whose cooperation was essential for the undertaking of this project:

Park Superintendent David Moffitt whose permission and patience allowed our research during all seasons of the year and on weekends.

Park staff personnel: Bill DeHart, Frank Pelicane, Paul Kenney, and Bill Williams for their time and skills to assist our project research in the field.

Blaine Cliver, Chief Historical Architect for the North Atlantic Regional Office, for his advice to the project architects and review of construction documents.

Paul Anderson, George Ordway, Conrad Gohlinghorst, Robert Wilson, and William Coffey of the Copper Development Association for their professional advice concerning copper design and details.

Mr. Kenneth Lynch, Sr., and Mr. Thomas Quinn of Kenneth Lynch & Sons, Inc., for their professional advice concerning ornamental copper fabrication.

Gerald Patten, Assistant Manager, Mid-Atlantic/North Atlant Team; Nan Ricky, Chief, Branch of Cultural Resources; Judson Ball, Supervisory Architect for Ellis Island project; Mary Reiter, Chief, Branch of Construction Contracts; and Harold LaFleur, Supervisory Historical Architect, for their supervision and administration which facilitated cooperation between the DSC professionals, the regional office, the park, and all project consultants.

Mr. Joseph Antosca, Michael Adlerstein, Henry Herb, Janis Slivko, and Gregg Sherry at the DSC NY/NJ design support team for their practical advice and assistance during the progress of project research and construction documents.

Mr. Harlan Unrau, Historian; Architects Sally Small and Raymond Todd; and Structural Engineer Terry Wong, Mid-Atlantic/North Atlantic Team, Denver Service Center, for their contributions in the research, design, and production of contract documents.

III. OUTLINE HISTORY

This is a synopsis of the origins of and modifications to copper on the Main Building, Ellis Island, Statue of Liberty National Monument:

- A. 1897-December 6
Boring and Tilton named winners of competition. Modifications were made to design before construction.
- B. 1898
 - 1. Samples of 18 oz. soft copper and 14 oz. hard copper submitted by contractor, R. H. Hood. Samples approved. (H-49, draft specifications from 1898 exhibit.)
 - 2. Changes in contract made, substituting mastic roof on towers where the tops were metal instead of copper. (H-46, drawings involved listed in footnote.)
 - 3. Original draft specifications by Boring and Tilton, 1898:
 - pp. 'a-25 to a-26' Copper roof (Main clerestory)
Book tile laid on iron roof frame.
Hardwood strips spiked to book tile.
Two layers of tarred wool felt cemented in place with hot asphaltic cement.
12 ounces untinned copper in sheets two feet or less wide.
Carried over wood strips and counter flashed.
 - p. 'a-26' Tower roofs
18 ounce hard copper over substrates as for main roof.
Finials to be built over wood core and secured to gas pipe mast.
Ornamental copper - locked joints, soldered and riveted as required and secured to stone eaves. Applies to globes.
Louvers in round tower opening to be of tile protected by 1/4" mesh copper wire screened secured inside louvers.
 - p. 'a-26' All copper untinned.
Gutter and valley linings - 14 ounces soft copper.
Other copper - 14 ounces hard (unless otherwise specified).
Joints - single locked, malleted flat and soldered. Solder colored to match copper where exposed.
If longitudinal seam required in gutter - to be six inches above bottom of gutter.
Gutter joints - double locked, malleted flat, soldered.
Gutter lining to be locked and soldered to top of hard copper gutter facing; back of gutter to be carried up at least six inches under roofing and secured to.

Ends of gutters against walls to be flashed and cap flashed.
Masonry work about roofs to be flashed and cap flashed as
required with hard copper. Flashing turned up six inches
against walls.

Step flashing on slopes.

Cap flashing and step flashing let into reglets and joints,
wedged with lead, pointed with elastic cement and cap
flashing turned down over wall flashing to one inch above
roof line.

Scuttle curbs to be flashed, cap flashing turned over inside
of curb and riveted every six inches with copper rivets.

- p. 'a-26' Cross joints in flashing - single locked and malleted
flat.

Flashing at eaves of tower let into reglets also flashing of
roof at cornice where parapet shown.

Outlets from roof gutters to be 1½ ounces soft copper, enlarged
to two times down pipe area, soldered to gutter lining or
flanged into rebate in asphalt & protected by copper wire
baskets. Outlets jointed to down pipe by slip joint extending
six inches into elbow.

Rain water leaders - 18 ounces hard copper secured with 1/8
inch thick copper bands to walls with 4 inch by 1/2 inch
copper expansion bolts. At 4'-0 above grade-jointed with
elastic cement into cast iron down pipes.

C. 1899

Changes were made in the cornice. (H-58, reference mentions a Drawing
No. 153. Could this be the cornice detail Drawing No. 253 that we have?)

D. 1900

1. February 16

Changes in contract omitted copper covering of clerestory windows
and increased covering of main clerestory roof to 14 oz. hard rolled
paper (H-59.)

2. May 19

Soft copper substituted for hard copper as the covering of the main
clerestory roof. (H-60.)

3. October 16

In a letter about work not meeting specifications, mention is made
to iron framework for copper globes (H-64.)

Domes covered with machine-formed and hand-beaten copper sections
(E-423.)

- Copper ventilating hoods provided by heating contractor, G. A. Suter and Company (H-76).
- E. 1902
Contract let to Henry E. Weiber of Kingston, New York, to repair roof, gutters, and flashings (H-122).
- F. 1902 to 1911
Several repairs to roof made. Copper work was probably involved (H-131 and 133).
- G. 1904
Railroad ticket office built (E-108, H-133).
- H. 1911
Third story added to west wing by George Sykes, Inc. of New York City (E-99, H-136).
- I. 1913
Original copper on main clerestory roof replaced with tile. Copper was "badly cracked and corroded." (H-150.)
- J. 1913 to 1915
Third story added to east wing (H-151, E-99).
- K. 1917
Repairs to roof and copper probable after Black Tom Wharf explosion (H-155).
- L. 1914 - October 21
Contract let to Reiss Roofing Company of Brooklyn for repair of roofs, gutters, and cornices on east and west wings. (H-159, specifications for this work exist.)

Photographs from this time show damage to domes (E-423).
- M. 1925 - September 30
Contract let to Russell and Boulter Corporation for repairing and replacing roof flashing and laying asbestos built-up roofing on north and south (?) roofs (H-170).

- N. 1926 - March 16
Contract let to Oscar White of Brooklyn to make roof repairs on east and west wings. (H-171, specifications for this work exist.)
- O. 1928
Roof repairs made by Ofpenkrantz and Mark of Newark, including the cornice of the west wing and an 18 oz. copper gutter at the southwest corner. (H-172, specifications for this work exist.)
- P. Early 1930s
Globes still in place. (See photograph, H-357.)
- Q. 1931 - July 29
Contract let to Ocrum Holding Corporation of New York City to repair roof of the northwest wing (probably railroad ticket office), including new flashing of 20 oz. copper "not less than 12 inches high as on the roof slope," and copper flashing around skylights. (H-178, specifications for this work exist.)
- R. 1932 - May
Contract let to Benjamin Ruben of New York City to replace all of the cornice on the clerestory roof, including iron framework backing, with new 20 oz. hard copper and new iron backing. Reuben was also to: replace all copper downspouts and roof boxes from clerestory down to main roof, replace copper lining around and between large pylons with new 20 oz. hard copper, replace missing sections of copper cornice of T&G roof to east of clerestory, and patch gutters and cornices of east and west wings. (H-185, specifications for this work exist.)

S. 1933

1. March/April

Sheet metal repair (wind damage). Contract to Smith of

New York, 1 Franklin Square, New York, New York. From the
job specifications:

p. '8' Replace two "leaf and scroll" ornaments on domes.

p. '9' Copper - Federal Specifications 467 (QQ-C-501).
20 ounces hard-cornices and mouldings, soffit-flashings
and ornaments.

2. November

Contract let to Merit Construction Company of New York City for
roof repair, including metal work. Completed May 13, 1934.

(H-190, specifications and list of materials are at Federal
Archives, Denver.)

Skylights, sheet metal of roofing, November 21, 1933:

p. '5' Clerestory roof - all old valleys, decking, gutter
linings and flashing removed and replaced with 20
ounces copper.
East wing light courts - flashing and counter flashing
to be renewed when T&G roof replaced.
Old third floor of east wing - remove old gutter lining
and replace with new. New lining to extend back
under roofing at least 12 inches. Soldered and
locked standing seam with inside edge of cornice.
Gravel stop.

p. '6' Northwest light court - remove cornice along roof
over corridor and replace with new copper cornice
with smaller overhang.
West Wing - asphalt built up roofing applied over tile
roof and "carry same out over the copper gutter
lining in same manner as installed in corresponding
location on the East Wing." (Into gutters?)
In all light courts - sheet metal to be given one
mopping of coating material.
Copper decking of vent shaft roofs re-secured where
loose.

p. '9' Built-up roofing - (West Wing asbestos felt).
 Copper - to comply with Federal Specifications 467
 (QQ-C-501) hard or soft as best suited, 20 ounces.
 Hard Copper - cornices, moldings, hanging
 gutters, counter flashings, louvers, skylights,
 ventilators.
 Soft Copper - flashings and valleys.
 Solder - grade A, Federal Specifications 313 (QQ-S-571).
 Fastenings - bronze or copper.
 Plastic roofing cement - Federal Specifications 380
 (SS-C-151).
 Copper not to contact other metal except lead.

p. '10' Flashings
 With top edge exposed - shall be counter flashed with
 overlap of not less than four inches, shaped to
 lie flat.

Counter flashings against masonry - bend up top edge
 1/4 inch and turn into joints or reglets at least
 1-1/2 inches. Fasten every 12 inches with lead
 wedges or metal clips and the grooves or reglets
 filled solid with pointing compound forced into
 place under pressure.

Down spouts - corrugated copper supported by heavy
 copper strips soldered to down spout and secured
 with bolts or screws. Support near all bends and
 offsets and not over ten feet apart. Held one inch
 away from surface to which attached. Outlets to
 have thimbles flanged and soldered to roofing and
 extending at least three inches into spouts connection
 and have globe pattern strainer of 16 gallon wire.

Material actually used. (From letter - 1/29/34).
 Copper - Anaconda Mining Company
 Asbestos felt - Johns Manville Corporation

T. WPA Project Records, 1939

1. Part C Program

| <u>Feet Number</u> | <u>Description</u> |
|--------------------|---|
| 30C | Repair finial. |
| 33 | Reroofing main building (except part of west wing). |
| 38 | Miscellaneous roof leaks. |
| 26 | Acoustical tile. |

2. WPA Project 265-97-2012 February 1937 to December 1937 roof
 repairs (\$13,000).

3. WPA Project 369-97-2-17 January 1938 to December 1939 sheet metal roofing (\$13,850).
 4. WPA Project 765-97-2-14 January 1939 to June 1940 sheet metal and roofing (\$62,000).
 5. WPA Projects December 1937 to October 1939 includes much roof/copper work including soldering joints in finials.
- U. 1940
Some work may have involved copper ("sheet metal and ventilators") but no documents exist (H-211).
- V. 1952
Specifications for repairs to rain water conductors should exist in Federal Archives, Denver.
- W. 1977
Much of copper on domes had already blown off. Inspection of remaining copper on domes revealed original workmanship was inferior: joints incompletely soldered, rivets poorly placed and spaced too widely, nailing to wood framework not frequent enough, and many seams left open. Remaining copper on domes was removed, catalogued, and stored. Remaining pieces do not make even complete dome, but are adequate to make a mock-up for reconstruction purposes. After removal, domes were inspected for structural integrity. Some mortar was missing and radical cracks were found near apex of southeast and northeast domes. General condition was judged to be stable, but reinforcement was advised when restoration occurs. Stucco was applied to furred wire lath and coated with an elastometric membrane. This assembly was designed for a five year life. Performance beyond that time uncertain. (E-423.)

- X. 1978
Remaining ornamental copper cornice crestings were removed from the main roof and stored. New sheet metal cornices without ornament were installed and other copper repairs/replacements were made. See Drawing Set 462-41001A.
- Y. 1982/1983
Denver Service Center architects of the National Park Service researched existing salvaged remains of the ornamental copper and prepared construction documents for its restoration. Work is coordinated and information shared with the A/E firm Beyer, Blinder and Belle.

Note: Numbers in parentheses refer to pages in the appropriate historic structure report where the information was found. "E" refers to the historic structure report done by Ehrenkrantz in 1978. "H" refers to the historical data historic structure report done by Harlan Unrau in 1981. Refer to "C" bibliography - previous historic structure reports.

IV. SUMMARY OF FIELD INVESTIGATIONS

- A. For organizational purposes the copper features on the Main Building roof incorporated into this project were divided into the following categories:
1. Towers
 - a. Ornamental copper domes
 - b. Tower floor flashings, hatchway covers, strainers, arch tile flashings, and round window flashings
 2. Clerestory roof
 - a. Ornamental globes and globe cornices
 - b. Clerestory roof ornamental cornice crestings
 - c. Clerestory window sill flashing
 - d. Airshaft roofs and associated flashings, downspouts, strainers, and gutters
 3. Roof Gutters
 - a. Tower/balustrade gutters
 - b. East and west wing exterior, interior, and central roof gutters. Exterior and central gutter cornice crestings
 - c. Third floor gutters
- B. Basic measurements of existing conditions and dimensions of all copper features were taken by DSC architects Dessauer, Small, and Todd which were transcribed into a set of historic conditions drawings No. 356/25009. These drawings include but are not limited to:
1. Dome elevation, dome section, masonry dome/octagonal drum elevation with framing, plan section, and overview plan of ornamental dome

2. Clerestory cornice cresting section and globe cornice cresting section
 3. Original (1898) and new (1913-15) cornice cresting; sections, profiles, and details for the central main roof and exterior main roof gutters respectively
 4. Third floor plan and roof plan
- C. Condition of salvaged copper (removed 1977-78): including ornamental dome copper, gutter cornice crestings, and various flashing pieces were inspected and found to be in a unusable condition. This existing ornamental copper can be described as follows:
1. Appearance: 16-20 ounce weight; surfaces heavily patinaed, areas worn thin, and edges shredded where connections and joints failed.
 2. Joinery: the most prevalent connection is a 1/4 - 1/2 inch soldered overlap, indicating an overuse of solder incorrectly employed as a fastener rather than just a sealant.
 3. Fastening and framing: with copper nails, 1-1/2 inch o.c., into 2 x 4 framing butt nailed together and of insufficient size, no pressure preservative treatment. Much of the framing is missing, rotten, and disconnected. No riveting was employed.
 4. Cornice crestings: layers of bitumen were applied on the surface as a waterproofing measure and ferrous bolts, nuts, and framings used for initial installation and repairs. Some ferrous frames are in good condition; other frames and bolts are thoroughly rusted, deteriorated, and connections broken, indicating electrolytic action and water intrusion. It is against modern building practices to use bitumenous materials and ferrous metals in contact with copper surfaces.

5. Shapes and Profiles: the ornamental pieces are in good enough condition for accurate recording and replication. However, not all features of the same type are joined, soldered, or pieced together in the same manner.
6. The salvaged copper amounts to an approximate 50 percent of the historic total ornament, the other half having fallen and blown off the building and lost during the decades prior to dismantlement (1977-78).

Field inspection revealed a large percent of the existing ornamental copper to be in poor condition, much too thin and fragile for reuse, having failed on account of poor mechanical joints, thermal expansion and contraction, mediocre design, inferior craftsmanship, and insufficient framing or grounding. Based on this evidence, the project architects are in favor of total replacement using new materials and superior joining techniques.

D. Condition of Domes and Towers

1. Because of the inaccessible heights, the stuccoed (Portland cement) domes on the four corner towers were not given a "hands-on" inspection. Viewed from the clerestory roof, the stucco layers exhibit some cracks with efflorescence but, otherwise, seem to be holding up well considering that they were installed (1977) as a temporary protective membrane with an expected longevity of only five years. The condition of the dome brick cannot be determined until demolition of the stucco.
2. The interior surfaces of the tower brick exhibit a general need for repointing and some brick replacement. Where ferrous ties fasten the stone pediments into the brick wall there is minor exfoliation, spalling of the cover brick and revealing a rusted angle; however, this condition does not suggest imminent structural failure. When

scaffolding is erected on the towers, further investigation of stone pediment/brick masonry connections should be performed.

3. On all four domes there is an existing "gas pipe," the original in situ for each ornamental copper urn and column. The interior steel "I" beam bases for these pipes exist on the top of the dome interiors. In the southwest tower an existing timber scaffold allowed DSC structural engineer Terry Wong and project architects Dessauer and Todd to inspect one of these steel assemblies (Tuesday, October 26, 1982). The steel beam was cut and spliced for installation into pockets of the brick masonry. The pipe rests on a plate on the steel beam flange but does not have any other lateral support. There are some vertical cracks on the masonry dome and the hole through which the pipe enters the dome appears worn and larger than necessary. These conditions lead to an assumption that the pipe under wind loads has enlarged the opening and its pressure has aggravated some cracks in the dome. Evidently, the base framing and pipe security need to be redesigned for superior lateral support and rigidity.
4. The tower floors are full of debris--remains of past unfinished masonry restoration work, pigeon guano, garbage, dirt, etc.--clogging up the corner drain and strainer. The base flashing appears intact; however, the arch tile copper flashings need repairs and some broken arch tiles need to be replaced. The hatchways need cleaning, repainting, and new covers to match existing delapidated samples. The interior sides of the arch tiles should be screened to prevent pigeon intrusion, nesting, and ordure.

5. The round windows exhibit problems where their copper sill flashings were improperly installed using iron nails. The cracked brick voussoirs and rusty fasteners should be removed, new replacement bricks installed, and new flashing provided.

E. Condition of Clerestory Roof

1. The only remains of the ornamental globes are the existing copper cap flashings over the clerestory roof corner stone bases. The original copper globes are missing and no detail drawings of these have been found. Whereabouts, condition, and date of removal of these globes is unknown. The project architects have no documentation other than one original Boring and Tilton elevation drawing and a few historic photographs of the Main Building. The only route for restoration seems to be reconstruction via designs based on these documents.
2. The existing globe cornices are an example of deterioration made worse by poor repairs, exhibiting fallen profiles due to rotted wood frames, rusted iron frames, disconnection at joints with ferrous fasteners, and sloppy patching with asphalt roofing cement and caulking. The copper fabric is too worn and pockmarked for reuse. Since the diagnosis is dilapidation beyond repair, the fabrication, provision, and installation of totally new matching cornices is necessary .
3. The clerestory roof cornice crestings has already endured some attempts at restoration. Several new cresting panels and patches were installed during 1977; however, these, as well as the existing 1932 copper panels show signs of poor installation and repair: fabric flexure due to insufficient iron framing and backing spaced too far apart, panels broken off from their ferrous fastenings, and repairs exhibiting poor craftsmanship, improper use of metals, and ugly roofing cement

scars and caulking. The project architects terminated their investigation on the clerestory roof at the crown of the cornice cresting, neglecting to study the gutters and roof flashings, which would take them beyond the scope of their work. From the visual and "hands on" inspection made of the exterior cornice crestings the existing problems call for removal of the copper panels and design/installation of new framing and new copper cornicing.

F. Clerestory Windows

With the exception of window S402 on the middle of the south clerestory facade, the seven other clerestory windows are missing their copper sill flashings, the remnants of which are in pieces lying on the built-up roof as debris from the 1980 contract to repair all wood windows. Window S402 retains its flashing intact and can serve as an example of historic flashing for the restoration on the other windows. The exposed sills on seven of the eight clerestory windows are an invitation for wall intrusion and damage. The bricks and mortar layer substrates of five of the north and south windows are already suffering deterioration. To protect the masonry of the building walls the clerestory window sills should be repaired and reflashed.

G. Airshaft Roofs and Vents

These copper features evidence signs of mechanical and thermal failure due to poor original design, poor connections, and inferior materials. The most obvious problems include: bent falling gutters, broken gutter tie straps, missing downspouts, mislocation of downspouts, poor flashing technique at the brick wall, weathered wood sheathing and nailers, and broken, even missing, vent louvers. The southeast air shaft roof was

replaced during the 1977-78 season, but this restoration was so poorly designed and installed that the gutters and ties are loose and ruptured. The standing seam copper roofs seem sufficiently intact from an exterior inspection even though there are dried spills of asphalt cement on the surface. However, underneath the roofs the wood tongue and groove sheathings are worn, peeling paint, and show incipient signs of water leakage and rot. Missing louvers and framing pieces leave openings for water intrusion into the airshafts. To keep the airshafts dry and protected from the elements the roofs and louvers need to be heavily repaired, even totally rebuilt in some cases.

H. The Gutters

1. No existing gutter sections were open for inspection nor was any destructive investigation performed on the gutters during the 1982 season of DSC research. Reductions in park staff; no available finances; no time, labor, materials, or park personnel at hand made opening of many gutter sections and their subsequent temporary repairs impossible, especially when project constraints and fast timing as stated during the summer of 1982 scheduled a construction document completion date of February 1983. Thus, exact conditions for gutter substrates were never determined but are conjectured on construction drawings to a degree of confidence by the DSC architects. Existing conditions will have to be recorded, drawn, and photographed in the field during construction phase demolition work. A field investigation clause will be included in specifications sections 01010 and 01570.

2. In general all the copper gutters exhibit the following common characteristics:
 - a. Clogged drains and downspouts, missing strainers, spalled masonry where sheet copper is regletted and splattered spills of roofing cement. Many drains and gutters are full of loose gravel from the built-up roofs, broken glass, and debris.
 - b. The sheet copper is 32 ounce of substantial thickness. However, the connections are poor, sheet runs too long, and soldering too often used as a fastener at sheet or patching joints. Existing mechanical fasteners are nails covered with point soldering. There are no rivets.
 - c. Improper repairs - patching with sheet copper fastened with rusted ferrous screws, smeared with roofing cement and globs of caulking or mastic. The perimeter roof gutter crests are covered with galvanized sheet metal and ferrous screws; this is a temporary stabilization, installed during 1977-78 repairs.
 - d. The gutter designs are not state of the art. There are not enough expansion joints, drains, or outlet tubes. Many connections and sheets are joined in various rather than uniform directions.
 - e. There is some spring along certain portions of the gutter decks, probably indicating insufficient substrate structure or a rotted/weakened condition of wood framing. Photographs of the gutter sections opened for repairs (1977-78) show a wood decking and framing, in rotted condition, failing in

conjunction with iron frames bent out of shape and very weakly fastened to wood framing.

3. The project architects inspected portions of the roof gutters and cornices on the Baggage and Dormitory Building (erected 1907-09), a contemporary edifice adjacent and just south of the Main Building. Here there is a strong analogy in appearance and design with the Main Building gutters and cornices. The open deteriorated portions of the B & D gutters reveal equivalent poor conditions of framing under gutters intact. Rotten lumber (untreated), failed connections, and rusted metal frames prevail throughout and suggest the probability of similar conditions under the Main Building gutters.
4. All evidence and observations of the gutter conditions lead the project architects to the conclusion that a total replacement of gutter copper and framing with superior materials and design but retaining the essence of the historic appearance and dimensions is necessary. Gutter and cornice restoration must include the salvage and reinstallation of heat tapes which were recently installed in 1982 during the period of DSC research.

V. RESTORATION - REPLACEMENT AND RECONSTRUCTION

A. Project philosophy: Historical Restoration

1. Direction: from the commencement of the project assignment the DSC architects understood that their objective would be a design for the restoration of the ornamental copper elements, the domes and globes being the major features. This restoration is the first phase of construction for the Ellis Island Centennial (1992), financed by private donations raised by the Commission for the Statue of Liberty and Ellis Island Centennial, directed by Mr. Lee Iacocca, Chairman of Chrysler Corporation.
2. Early project meetings: Park Superintendent David Moffitt informed the DSC architects during a meeting at Federal Hall (Tuesday, July 13) that the product of their mission was a very highly visible copper facade restoration, meeting the highest quality standards, and impressive to the public view from all sides of New York Harbor; because of the enormous sums of money to be raised by the Commission (\$200 million+) budget limitations would not be a consideration in planning the scope of project work.

Project Supervisors Henry Herb and Greg Sherry advised the DSC architects to take advantage of the large potential budget which would be available only once. They encouraged DSC to design for long term durability, wherever necessary improving the technical aspects of copper fabrication/installation over existing methods; wherever possible replacing existing copper and framing with new fabric; and specifying details and solutions which would be "state of art" in the copper industry to insure longevity of the work lasting many decades and requiring a minimum of maintenance.

3. Priorities

- a. Ornamental domes and globes
- b. Roof gutters, cornice crestings, and drainage
- c. Window sill flashings and repairs
- d. Airshaft roofs, vents, gutters, and downspouts

4. Reconstruction and replacement: initial inspection of the salvaged copper from the domes and cornices showed that a restoration to the historical period 1898-1915 would require reconstructions using new materials. This hypothesis was supported by the project consultants.

B. Project Consultants: the DSC architects are indebted to the advice of experts from the Copper Development Association and Kenneth Lynch & Sons, Inc., who volunteered their time to assist the project at no cost to the government. These organizations sent representatives to Ellis Island, to the Denver Service Center, and to Federal Hall, New York City, to meet with the DSC architects, inspect existing conditions on site, and review/critique design development drawings and specifications. Both Copper Development Association and Kenneth Lynch gave the following advice to the Denver Service Center concerning copper restoration:

1. Method of restoration should be one of removal, replacement, and reconstruction with new materials.

Field inspection indicates that existing copper is in poor condition. Copper in situ should be removed and salvaged, and should not be used for restoration.

2. New ornamental copper of sufficient weight should be fabricated and installed. These new sheets should be reconstructions resembling the originals in appearance but fastened and installed in a superior manner.

3. Unless more tangible evidence is found, new ornamental copper globes can only be reconstructed from conjectured designs created by the Denver Service Center to match the small views shown on historic photographs and on one elevation drawing of the original Boring and Tilton set (1898).
4. In all cases reconstruction should be designed to comply with state of the art specifications for copper details. Copper Development Association furnished the Denver Service Center with industry literature concerning gutters, downspouts, roofing, flashing, and copper alloys.
5. All wood and laminate framing should be pressure-preservative treated. Metal framings should be stainless steel (300 series or above) or, preferably, bronze/copper alloy.
6. Salvaged historic ornamental copper should be preserved, properly stored, safeguarded, and arranged into an educational display for the public.
7. No attempt should be made to entomb original pieces of ornamental copper within the new copper fabrications and installations. Such a process would only cause serious problems and is prone to error.
8. The company fabricating the ornamental copper should have at least nine months to one year's time to perform work.
9. The new ornamental domes should be fastened to a new laminated wood substrate which covers the masonry surface.

The project architects have accepted the consultants' recommendations and have designed their construction documents accordingly. The detailing of all work (drawings and specifications) will be reviewed by the consultants before the Denver Service Center will let this project go to bid.

C. Summary of new work: the following is a list of the principle features of work including removal, salvage, repair, replacement of existing fabric, and installation of new materials to restore the historic appearance of the ornamental copper features on the roofs, towers, and gutters of the Main Building.

1. Removal of existing cement stucco, metal lath, sheet metal flashing, steel pipes, steel plates, steel beams, and timber scaffolding from four tower domes.
2. Replacement of broken or missing bricks on exterior and interior of four towers and domes, and repointing of all brickwork on exterior and interior of four towers and domes approximately 12,000 square feet.
3. Installation of new bronze pipes, bronze plates, and steel beams on interior of our tower domes.
4. Fabrication and installation of four new ornamental copper domes and their laminated wood and bronze support structures.
5. Reinstallation of original timber scaffolding in southwest tower dome.
6. Removal of one broken arch tile and replacement of five broken and missing arch tiles on southwest tower.
7. Installation of copper screens behind arch tiles on all four faces of four towers.

8. Fabrication and painting of four new tower hatchway covers and cleaning and painting of hatchways.
9. Repair of copper flashings over arch tiles on all four towers.
10. Removal of existing copper sill flashings at all tower round windows, and two clerestory windows.
11. Replacement of broken and deteriorated bricks at sills of round tower windows and clerestory windows.
12. Installation of new copper sill flashings at all tower round windows and seven clerestory windows.
13. Removal of all existing copper clerestory cornices, globe cornices, and their framing.
14. Installation of new copper clerestory cornices, globe cornices, and of new bronze cornice framing.
15. Fabrication and installation of four new copper globes and their bronze framing.
16. Removal of four existing copper air shaft roofs, flashings, gutters and downspouts, and air vent louvers.
17. Repair and reinstallation of copper air vent louvers.
18. Cleaning and painting of existing air shaft roof framing.
19. Installation of four new copper air shaft roofs, flashings, gutters and downspouts.
20. Removal of existing copper gutters, framing, cornices, and heat tape along entire central, interior, and exterior perimeters of main roof and tower bases and along the perimeter of the third floor.
21. Installations of new copper gutters and framing along entire central, interior, and exterior perimeters of main roof and tower base, and along the perimeter of the third floor; and reinstallation of heat tape.

22. Fabrication and installation of new copper cornice crestings
along exterior perimeter of main roof on the east and west wings,
and along perimeter of the central roofs on the east and west wings.
23. Installation of new brass strainers and copper leaders and down-
spouts at main roof and third floor gutters.
24. Restoration of landscaping damaged during contract.

VI. RECOMMENDATIONS

A. Further architectural research: listed below are existing areas on the Main Building roofs and in the proximity of the ornamental copper which must be surveyed in order to ascertain the scope of repairs necessary for coordination with work described in this historic structural report.

1. Built-up roof conditions for the entirety of the Main Building: concrete slabs, vapor barriers, mortar layers, felt underlayment, tar and gravel, flashing, vents, pipes, and conduits
2. Masonry walls: brick, tile, stone, and concrete construction
3. Masonry wall drainage: cast iron downspouts
4. Lightcourt drainage: cast iron downspouts
5. Lightcourt roofs, gutters, and other copper features
6. Stone pediments and stone substrates under ornamental copper and copper gutters
7. Clerestory roof: framing, tiles, flashing, gutters, drainage, waterproofing, and masonry

B. Field investigation during construction demolition: the following areas when opened during demolition must be inspected and recorded to check existing conditions and to verify or change project design.

1. All gutter sections
2. Dome and octagonal drum brickwork; stone pediment foundations on the towers for ornamental copper
3. Air shaft roof steel angle frames

C. Construction time: because of the fabrication work and esoteric nature of this ornamental copper restoration a construction period of at least 18 months spanning two summers would be required.

Seasonal work might be divided as follows:

1. First season (May-October):

- a. Demolition and removal of existing dome stucco, copper cornices, roof gutters, downspouts, flashing, and sheet metal roofs.
- b. Masonry restoration work.
- c. Field research to check designs on construction drawings and to commence shop drawings for fabrication of the ornamental copper.
- d. Installation of new gutters, downspouts, flashing, and sheet metal roofs.

2. Winter interim (November-April):

- a. Protection of incomplete work.
- b. Completion of shop drawings and actual manufacture of new ornamental copper pieces for the domes, globes, and gutter cornices.

3. Second season (May-November):

- a. Delivery and installation of ornamental copper. Due to the intricate nature and craftsmanship necessary for this work, it will be a long and slow process.
- b. Completion of all other unfinished work.

D. Contracting - because certain work elements of this historic structure report require further research and are part of larger building sections requiring extensive restoration in the total building project, it would seem feasible and more appropriate for construction scheduling to divide the copper work into separate divisions, preferably the three described below, to be bid and accomplished as follows:

1. Towers - scaffolding; demolition; masonry restoration; ornamental copper dome and framing fabrication; installation of substrates, framing, and ornamental copper on domes; round window flashing; hatchways and hatchway covers; arch tiles, arch tile flashings, and arch screens; tower floor drainage.

The four corner towers on the main building stand out architecturally and vertically as individual features and seem structurally independent from other parts of the building. Above the level of the main roof the towers become a separate construction unconnected to the building wings, clerestory roof, balustrade roofs, and gutters. This relative isolation of the towers and the enormity of restoration of the dome ornamental copper provide a prime opportunity for an initial construction program with a high public visibility and aesthetical importance. Because of the heights involved (60-140'), small areas and floor space, and very specialized work in copper and masonry, the towers present a unique work item which, whether contracted separately or in combination with other items, would require a separate scaffolding and concentration of labor in four corners of the building for a minimum of two construction seasons. It is the opinion of the project architect that work

to restore the Main Building would best commence at the towers and then proceed in order to the clerestory roof, balustrade roofs, and east and west wing roofs. If the money is available and the direction from management is decisive, restoration of the towers as a separate bid package would be feasible from a construction management point of view and would made a good diplomatic gesture to evince publically that the Centennial project has begun.

2. Clerestory roof - scaffolding; demolition; fabrication, provision, installation of new ornamental copper globes, globe cornices, clerestory cornices, and framings; installation of new air shaft roofs with gutters, downspouts, and flashings; repair and installation of new air shaft vents; installation of new clerestory window sill flashings.

Most of this work should be incorporated into a survey, design, and documents prepared by the A/E firm to repair the whole clerestory roof and its related walls, framing, masonry copings, substrates, and other construction (i.e., mechanical, electrical, etc.). The cornices are connected to the clerestory gutters, flashing, and tile roof substrates and should be replaced simultaneously with repairs to this other fabric. The air shaft roof work should be coordinated with any new designs to reuse the air shafts for mechanical/plumbing/electrical purposes. For reasons concerning fabric preservation new ornamental globes and window sill flashings should not be installed until the completion of other heavier construction work within close proximity. The

clerestory roof copper ornament should be restored in a general contract covering the whole clerestory building feature, the final installation on being the globes.

3. Roof Gutters - scaffolding; demolition; provision and installation of new exterior, interior, and central roof gutters with framing, leaders, strainers, and heat tapes; fabrication, provision, and installation of ornamental copper cornice crestings on the exterior and central roof gutters; provision and installation of new tower base gutters and third floor gutters with framing leaders, strainers, and heat tapes.

The roof gutters are an intrinsic part of the interrelated roof, masonry wall, and drainage systems of the Main Building. Because of the connection to built-up roofs, to masonry walls, to stone pediments, and with wall downspouts, the gutter work should be programmed to coincide with construction to upgrade and repair these larger, yet related, building features. Gutters should be included in the general contract to restore the total Main Building, and more specifically, the roofing phase of this work.

- E. Contract documents - these shall be drawn and written to clearly indicate and emphasize the quality of work required for this job. Details on the drawings and paragraphs in all specification divisions (i.e., special controls, job controls, quality controls, submittals, and materials) shall outline the extensive amount of field investigation involved, shop drawings necessary, and special skilled personnel required. Contract documents of this type should discourage general contractors with little experience fabricating or installing ornamental copper from bidding on

the project and should conversely encourage general contractors who have a genuine desire to do good work, who are experienced in historic ornamental metal, and who support the objectives of the Centennial.

- F. Preservation of existing historic copper fabric--the existing remains of original copper and copper removed during construction demolition should be salvaged, stored, guarded, and eventually used for museum display within the Main Building when the restoration is complete. It should be the responsibility of the park to find suitable space for the storage and safeguard of this copper. It shall be the responsibility of the contractor to salvage and preserve copper which is specified for removal for the duration of the contract.
- G. The Denver Service Center-A/E firm cooperation: a team of architects, engineers and archeologists from the Mid-Atlantic/North Atlantic Team, Denver Service Center should work with the A/E firm during all phases of research, demolition, preliminary design, production, and construction management. This association is essential to insure a process and product according to NPS expectations and standards. The scope of project work is so vast, varied, and requires so much professional skill that DSC architects can benefit greatly from a close working relationship with the architects from Beyer, Blinder and Belle and their engineering consultants. The Denver Service Center can contribute to this working partnership for the duration of the contract by concentrating a few of their professionals on certain aspects of the work and sharing information with the A/E firm. Since this has already been

in essence with DSC work on the ornamental copper, further pursuit of this arrangement should be followed. Below are listed some suggested areas of study where this working relationship might be best realized.

1. Copper work: the Denver Service Center could continue copper investigation and drawings - in the lightcourts of the Main Building, on the roof of the Ticket Office Building, on the roof of the Baggage/Dormitory Building, on the roof of the Kitchen/Laundry Building, and on the roof of the Ferry Building. Drawings of existing conditions and details for solutions would provide information for the A/E contract packages.
2. Built-up roofs: since copper gutter work should coincide with roofing repairs, it only makes sense that the next step after copper features should be built-up roofs - existing conditions, materials, identification of problems, alternates for repairs, reports, details, approval of solutions, drawings, and specifications.
3. Miscellaneous: building drainage, artifact documentation, incorporation of existing electrical/mechanical features into new systems, roofing systems, photogrammetry, demolition, etc.

VII. COST ANALYSIS: CLASS "B"

The following cost analysis is a Class "B" estimation of approximate amounts required to accomplish the various jobs outlined in the scope of work. In no way could this analysis cover all the work which needs to be done but accounts for a major part of it at an expenditure of \$2,500,000. The major costs involved in the work outlined concern labor manhours (MH) and ornamental copper fabrication/assembly/installation. The estimated sum of \$2,182,950 is increased by \$317,050 to cover extra costs for project involvement on Ellis Island, to include but not limited to the following: ferry transportation, deliveries, insurance, delays, overhead, change orders, etc., and any extra work unanticipated by the DSC professionals. This cost analysis dates from March 1983 and probably should be increased 8 percent per annum due to inflation.

DESCRIPTION OF PROJECT: Ellis Island Main Building: Copper Roof Restoration

Statue of Liberty National Monument

Peter F. Dessauer, Architect

PREPARED BY Mid-Atlantic/North Atlantic Team, DSC

PAGE NO. 107

DATE: March 1983

DRAWING NO. 356/25010

REVIEWED BY: B. Hinson

B. Hinson 3-10-83

| ITEM | ESTIMATED QUANTITY | UNIT | UNIT PRICE | TOTAL AMOUNT |
|---|--------------------|------|------------|----------------|
| FOUR CORNER TOWERS - Removal of cement stucco, metal lath, sheet metal flashing, steel pipes, plates, and beams; and timber scaffolding from four corner tower domes. 2,000 S.F. per domes x 4 = 8,000 S.F. total including scaffolding for all four towers | 8,000 | S.F. | \$18.75 | \$150,000.00 |
| Replacement of 600+ broken or missing bricks on the exterior and interior of four towers and domes. Approximately 50 C.F. | 50 | C.F. | \$35.00 | \$ 1,750.00 |
| Repoint all brickwork on interior of towers and domes and on exterior of domes. Approximately 12,000 S.F. total | 12,000 | S.F. | \$ 6.00 | \$ 72,000.00 |
| Installation of new brass pipe, steel plates, and steel beams on the interior of the four tower domes. | 4 assemblies | | \$1250.00 | \$ 5,000.00 |
| Fabrication and installation of four new ornamental copper domes and their wood and brass framing. 2,000 S.F. each x 4 - 8,000 S.F. total. | 8,000 | S.F. | \$150.00 | 1,200,000.00 |
| Reinstallation of original timber scaffolding in the southwest tower dome. | | | | \$ 2,000.00 |
| Removal of one broken arch tile and replacement of five broken and missing arch tiles on the southwest tower. | 5 | | \$100.00 | \$ 500.00 |
| Fabrication and installation of copper screens behind arch tile openings on all four towers. | 16 | | \$250.00 | \$ 4,000.00 |
| Fabrication, painting, and installation of four new tower hatchway covers, cleaning, and painting of existing steel hatchways. | 4 | | 500.00 | 2,000.00 |
| Repair of copper flashings over arch tiles on all four towers, 16 arches @ 50 S.F. = 800 S.F. | 800 | S.F. | 3.00 | \$ 2,400.00 |
| Erection of interior tower scaffolding for brickwork and steelwork | | | | 20,000.00 |
| SUBTOTAL | | | | \$1,459,650.00 |

SEE NEXT SHEET)

CONTINUATION SHEET

| ITEM | ESTIMATED QUANTITY | ITEM | UNIT PRICE | TOTAL AMOUNT |
|------|--------------------|--|------------|--------------|
| | | <u>WINDOWS</u> | | |
| 12 | 12 windows | Removal of existing copper flashing from all tower round windows | 75.00 | \$ 900.00 |
| 13 | 2 windows | Removal of existing copper flashing from two clerestory windows | 100.00 | 200.00 |
| 14 | Approx. 8 C.F. | Replacement of broken and deteriorated bricks at sills of round tower windows and clerestory windows | 40.00 | 320.00 |
| 15 | 12 windows | Installation of new copper sill flashing on round tower windows | 200.00 | 2,400.00 |
| 16 | 7 windows | Installation of new copper sill flashings on clerestory windows | 600.00 | 4,200.00 |
| 17 | 1 window | Repair of existing window flashing (S402) | 200.00 | 200.00 |
| | | SUBTOTAL | | \$ 8,220.00 |
| | | <u>GLOBES, GLOBE CORNICES, AND CLERESTORY CORNICES</u> | | |
| 18 | 1,400 S.F. | Removal of existing clerestory roof cornices | 5.00 | 7,000.00 |
| 19 | 600 S.F. | Removal of existing globe cornices | 5.00 | 3,000.00 |
| 20 | 1,400 S.F. | Installation of new clerestory roof cornices - ornamental copper and framing | 50.00 | 70,000.00 |
| 21 | 600 S.F. | Installation of new globe cornices - ornamental copper and framing | 50.00 | 30,000.00 |
| 22 | 1,120 S.F. | Fabrication and installation of four new ornamental copper globes and framing | 150.00 | 168,000.00 |
| | | SUBTOTAL | | \$278,000.00 |
| | | <u>AIR SHAFT ROOFS</u> | | |
| 23 | 1,240 S.F. | Removal of four existing copper air shaft roofs, flashings, gutters, downspouts, sheathing, and air vent louvers | 5.00 | 6,200.00 |
| 24 | 640 S.F. | Repair and reinstallation of copper air vent louvers | 10.00 | 6,400.00 |
| 25 | | Cleaning and painting of existing air shaft roof framing | | 4,000.00 |
| 26 | 600 S.F. | Installation of four new copper air shaft roofs, flashings, gutters, downspouts, sheathing, etc. | 50.00 | 30,000.00 |
| | | SUBTOTAL | | \$ 46,600.00 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

CONTINUATION SHEET

| ITEM | ESTIMATED QUANTITY | ITEM | UNIT PRICE | TOTAL AMOUNT |
|--------|-----------------------------|--|------------|---------------|
| | | <u>GUTTERS</u> | | |
| 27 | 6,440 S.F. | Removal of existing copper gutters, cornices, framing, and heat tape along the entire exterior, interior, central, tower base, and third floor gutters. | 7.00 | \$ 45,080.00 |
| 28 | 6,440 S.F. | Installations of new copper gutters along entire exterior, interior, central, tower base, and third floor gutters; and reinstallation of heat tape. | | |
| | | Exterior gutter @ 1,520 S.F. x 10 = 15,200.00 | | |
| | | Interior/central gutter @ 1,520 S.F. x 10 = 15,200.00 | | |
| | | Tower base @ 1,880 S.F. x 10 = 18,800.00 | 25.00 | 161,000.00 |
| | | Third floor @ 1,520 S.F. x 10 = 15,200.00 | | |
| 29 | 2,320 S.F. | Fabrication and installation of new ornamental copper cornice crestings along the perimeter of the exterior gutters and central gutters of each and west wings main roof | 45.00 | 104,400.00 |
| | | Exterior gutter @ 1,520 S.F. x 25.00 = 38,000.00 | | |
| | | Central gutter @ 800 S.F. x 25.00 = 20,000.00 | | |
| 30 | 100 | Fabrication and installation of new bronze strainers for copper leaders and downspouts at main roof and third floor gutters; and air shaft roof gutters. | 50.00 | 5,000.00 |
| | | SUBTOTAL | | \$315,480.00 |
| | | <u>LANDSCAPE RESTORATION</u> | | |
| 31 | | Restoration of landscaping damaged during contract | | \$ 75,000.00 |
| | | SUBTOTAL | | \$ 75,000.00 |
| | | <u>ADDITION OF SUBTOTALS</u> | | |
| | | Four corner towers | | \$1,459,650.0 |
| | | Windows | | 8,220.0 |
| | | Globes, globes cornices, and clerestory cornices | | 278,000.0 |
| | | Air shaft roofs | | 46,600.0 |
| | | Gutters | | 315,480.0 |
| | | Landscape restoration | | 75,000.0 |
| | | TOTAL | | \$2,182,950.0 |
| ch | special Ellis Island factor | grand total for FY 1983 | | \$2,500,000.0 |
| annual | inflation rate of 8 percent | grand total for FY 1984 | | \$2,700,000.0 |

VIII. BIBLIOGRAPHIES

A. Primary Sources

Mr. Kenneth Lynch, Sr., President
Mr. Thomas Quinn, Engineer
Kenneth Lynch & Sons
78 Danburg Road, P. O. Box 488
Wilton, Connecticut 06897
FTS 8-244-2000 203-762-8363

Mr. Paul Anderson, Vice President
Mr. George Ordway
Copper Development Association, Inc.
1011 High Ridge Road, P. O. Box 3822
Stamford, Connecticut 06905-0822
203-322-7639

Mr. William E. Coffey, P. E., Regional Manager
Copper Development Association, Inc.
P. O. Box 1122
Longmont, Colorado 80501
303-651-2995

Beyer, Blinder, Belle
Architects
80 Fifth Avenue
New York City, NY 10011
212-741-3960

B. Original Specifications for Ellis Island Main Building

Original Draft Specifications by Architects Boring and Tilton;
Carpentry, Painting, Plastering, Roofing of the Immigrant Building,
1898; FF 29, Box 1, FRC Loc. 324861, Federal Record Center, Denver,
Colorado

Specifications for Repair and Renewing Defective Parts of Roof,
Gutters and Cornices, East and West Wings; October 14, 1924; RG 85,
NA, Federal Record Center, Denver, Colorado

Specifications for Roof Repairs on East and West Wings; March 4, 1916;
RG 85, NA, Federal Record Center, Denver, Colorado

Specifications for Repairs and Replacements - Roof, Leaders, and
Skylights, North Wing; July 15, 1931; RG 85, NA, Federal Record Center,
Denver, Colorado

Specifications for Sheet Metal Work; March 1933; FF 114, Box 3,
FRC Loc. 324861; Federal Record Center, Denver, Colorado

Specifications for Skylights, Sheet Metal and Roofing; November 1933;
FF 43, Box 1, FRC Loc. 324861, Federal Record Center, Denver, Colorado

WPA Projects, 1939; FF 331, Box 8, FRC Loc. 324861; Federal Record
Center, Denver, Colorado

C. Previous Historic Structure Reports

Harlan Unrau, Historic Structure Report, Historical Data, Statue of
Liberty National Monument, New York/New Jersey, May 1981; U. S.
Department of the Interior, National Park Service, Denver Service
Center

Building Conservation Technology/The Ehrenkrantz Group, Historic
Structure Report, U. S. Immigration Station, Ellis Island, New York;
December 1978

Historic Structure Report, Mechanical and Electrical Rehabilitation,
Main Building, Ellis Island, Statue of Liberty, New York; January 1980

D. Professional Literature

Copper Development Association, Inc., copper, brass, bronze design
handbooks:

Sheet Copper Applications

Architectural Applications

Building Products Source Book - miscellaneous metal, ornamental
metal and fasteners

Building Products Source Book - roofing and flashing products

Welding Handbook - welding, soldering, brazing, surfacing

Copper Tube

Properties of Soldered Joints

Revere Copper and Brass Incorporated
P. O. Box 191, Rome, New York 13440

Copper and Common Sense - design principles and installation
techniques of sheet copper construction

Sheet Metal and Air Conditioning Contractors
National Association, Inc.
8224 Old Court House Road
Tysons Corner, Vienna, Virginia 22180

Architectural Sheet Metal Manual, third edition, 1979

E. Sources for Miscellaneous Manufacturers' Literature

Allied Bronze Corporation
25-11 Hunterspoint Avenue
Long Island City, New York 11101
212-361-8822

Julius Blum & Co., Inc.
P. O. Box 292
Carlstadt, New Jersey 07072

Kenneth Lynch & Sons
78 Danbury Road, P. O. Box 488
Wilton, Connecticut 06897-0488
203-762-8363

Emhart Fasteners Group
Pop Fasteners Division
510 River Road
Shelton, Connecticut 06484

IX. Photographs

The following photographs show the existing conditions of the copper features on the Ellis Island Main Building roofs. Photographs taken prior to the 1977 show the existing conditions of the Tower Dome Ornamental Copper and gutter Cornice Crestings in situ which were dismantled that year by NPS and salvaged/stored in the Main Building. Photographs dated August, 1982, represent existing conditions of copper features as found and documented during initial investigations by DSC Architects Sally Small, Raymond Todd, and Peter Dessauer.

Record of existing conditions and directions for their restoration can be found in the following sets of drawings prepared by the Denver Service Center and A/E firm Beyer Blinder Belle:

| | |
|-------------------|-----------------------------------|
| DSC No. 356/25009 | Historic Conditions (see page 66) |
| DSC No. 356/25010 | Tower Restoration |
| DSC No. 356/25011 | Copper Roof Restoration |
| DSC No. 356/25012 | Preservation - Contract C |



1. View of West Wing Roof, Clerestory Roof, and 4 corner Towers on the Main Building, Ellis Island. Remains of the original Ornamental Copper in situ on the Tower Domes, Clerestory Cornices, and West Wing Cornices. Date: Circa June, 1974.



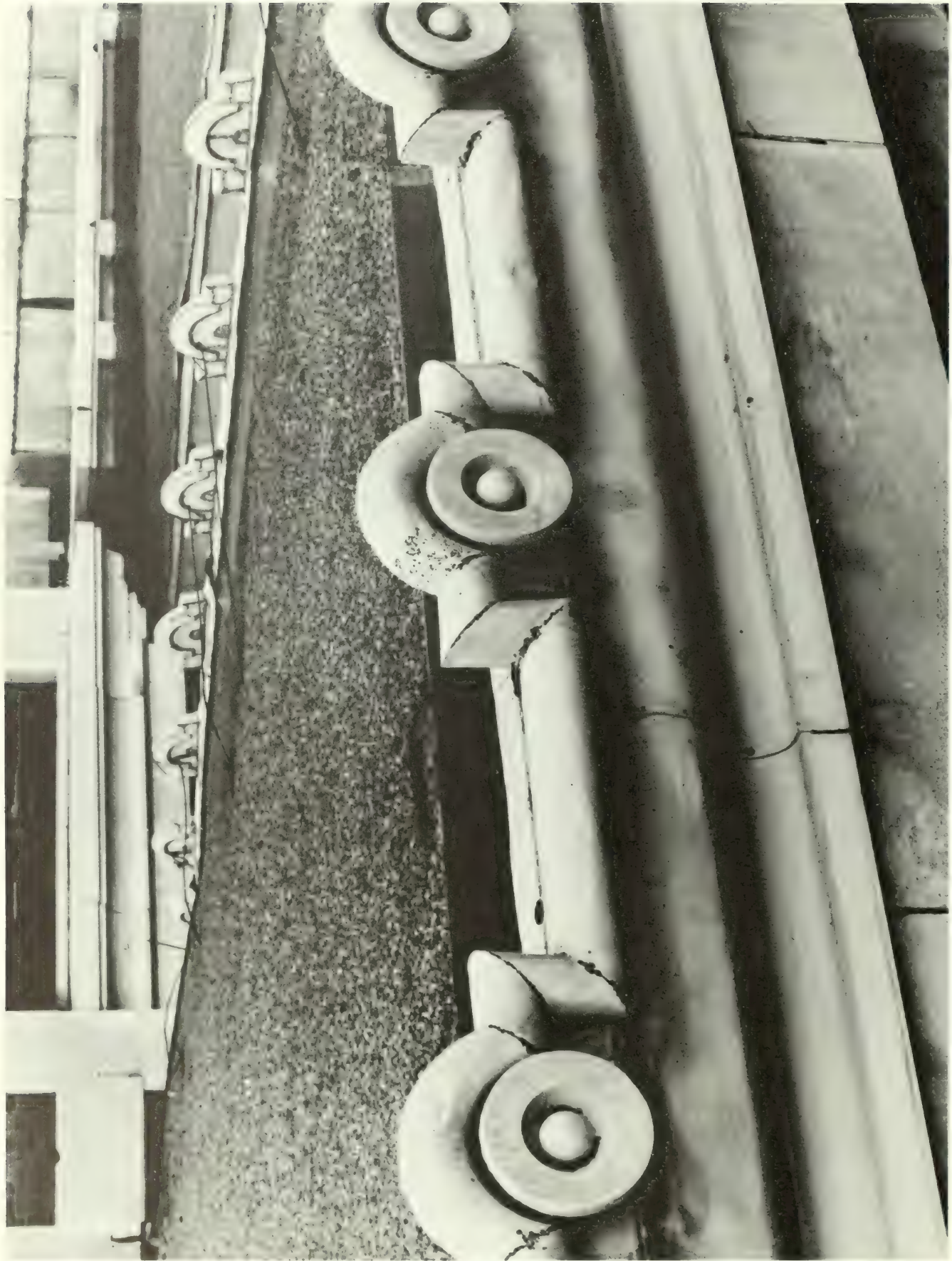
2. South Facade (aerial view) of original Ornamental Copper of the Brick dome of the Southwest Tower. Date: 1977, prior to removal and salvage of copper by NPS



3. North Facade of Southeast Tower; original Ornamental Copper in situ.
Date: Circa 1977.



4. South Facade of Northeast Tower; original wood framing in situ on brick Dome and brick Octagonal Drum. Date: 1977.



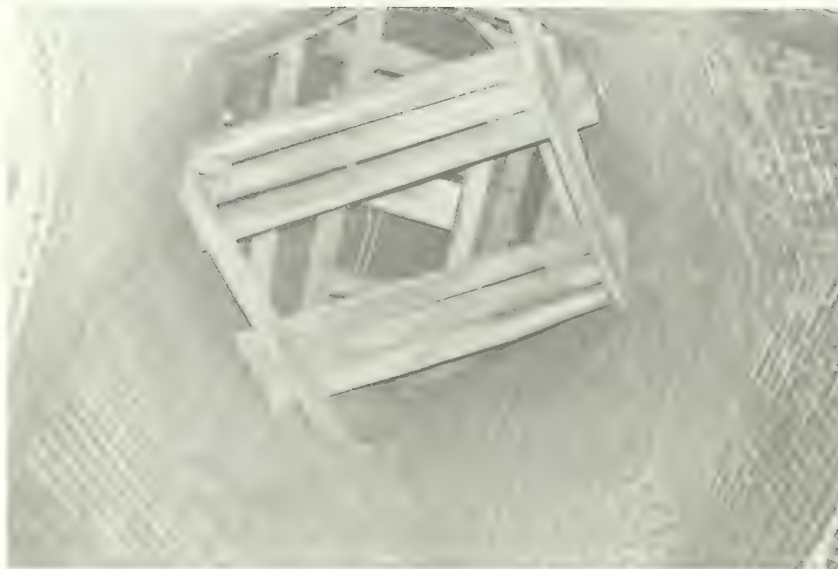
5. Original Ornamental Copper Cornices on Interior Gutters of Main Building Roof. Existing conditions;
Circa June, 1974.



6. Original Ornamental Copper Cornices on Exterior Gutters of the Main Building Roof;
Circa 1974-77.



7. Original steel I beam in Brick Dome of SW Tower;
support for existing pipe column. Existing
conditions; August, 1982.



8. Scaffolding timbers inside Southwest Tower Octagonal
Drum and Dome. Existing conditions; August, 1982



9. Hatchway and floor of Southwest Tower.
Existing conditions; August, 1982



10. Copper flashing over Arch Tiles. Typical
existing conditions; August, 1982.



11. Exterior Copper sill flashing on Circular Tower Windows. Typical existing conditions; August, 1982



12. Typical copper alloy gutter/downspout strainer. Date: 1982



13. View west along Copper Cornice of Clerestory Roof, Balustrade Gutter, towards N.W. Tower. Existing conditions; August, 1982



14. View west along Copper Cornice of Clerestory Roof, Balustrade Gutter, towards N.W. Tower. Existing conditions; August, 1982



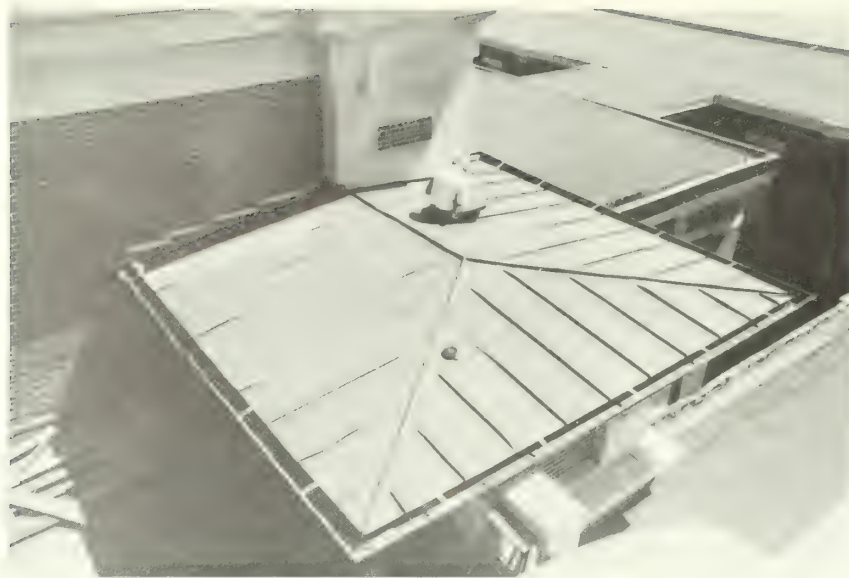
15. View west along Copper Cornice and Gutter, north side of Clerestory Roof, showing existing conditions of Bitumen over copper gutters; August, 1982.



16. Southeast corner of Clerestory Roof, showing existing conditions of Clerestory Roof Copper Cornice and copper sheet cap over stone base for missing Ornamental Copper Globe; August, 1982.



17. Steel framing for the Southeast Airshaft Roof, revealed during demolition and replacement with a new copper roof, 1977.



18. Southeast Airshaft Roof - standing seam copper. New copper sheet metal replaced original fabric during NPS repairs in 1977. Existing conditions show gutters, downspouts, and straps falling apart; August, 1982. NPS/DSC Architect Raymond Todd taking notes.



19. Southeast corner of Main Building Clerestory Roof; copper gutters, copper airshaft roof, and louvers. Existing conditions; August, 1982.



20. Southwest corner of Main Building Clerestory Roof; copper gutters, copper airshaft roof, and louvers. Existing conditions; August, 1982.



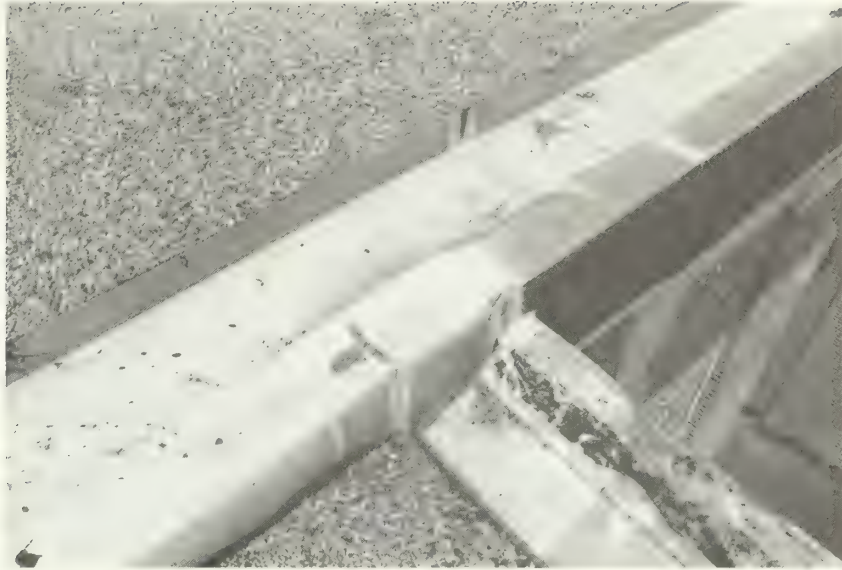
21. Southwest Airshaft Roof - standing seam copper roof, copper gutters, copper louvers, and copper downspouts. Existing conditions; August, 1982.



22. Northeast corner of Main Building Clerestory Roof; copper cap on stone base, copper cornices and gutters, and copper standing seam roof. Existing conditions; August, 1982.



23. Northwest corner of Main Building Clerestory Roof; copper cap on stone base, copper cornices and gutters, copper standing seam roof, and copper louvers. Existing conditions; August, 1982



24. Interior Gutters of roof above Lightwells on East Wing. Existing conditions of copper gutters in August, 1982. Original copper cornices removed, salvaged, and stored in Main Building by NPS in 1977.



25. Interior Gutter corner drain and built up roof. Existing conditions of roof and copper on roof, East Wing; August, 1982. Original copper cornices removed, salvaged, and stored in Main Building by NPS in 1977.



26. Balustrade Gutter. Existing conditions of original copper, loose roof gravel, spilled bitumen, and poor waterdrainage; August, 1982.



27. Tower Base Gutter. Existing conditions of original copper in stone cornice gutters; August, 1982.



28. Ornamental Copper Column Shaft and Shaft Base with Capital Ball. Original fabric (1898-1900) dismantled and salvaged by NPS 1977. Stored in East Wing, first floor, room 156 of Main Building. August, 1982.



29. Ornamental Copper Capital Ball; original fabric. August, 1982.



30. Ornamental Copper Column Base;
original fabric. August, 1982.



31. Ornamental Copper Urn; original fabric. August, 1982.



32. Ornamental Copper Urn Base; original fabric.
August, 1982.



33. Ornamental Copper Dome Segment Panel with
Scallop; original fabric. DSC/NPS Architect
Sally Small standing in photograph. August, 1982.



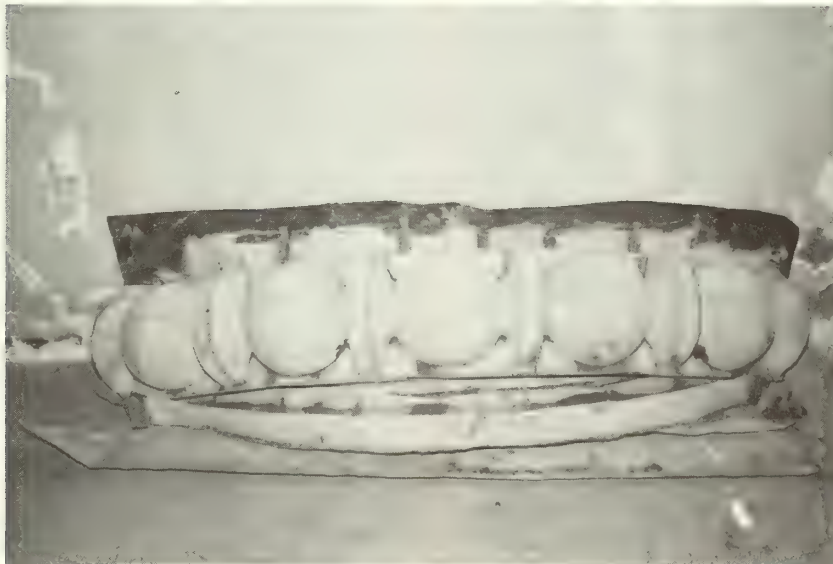
34. Ornamental Copper Rib; original fabric.
August, 1982.



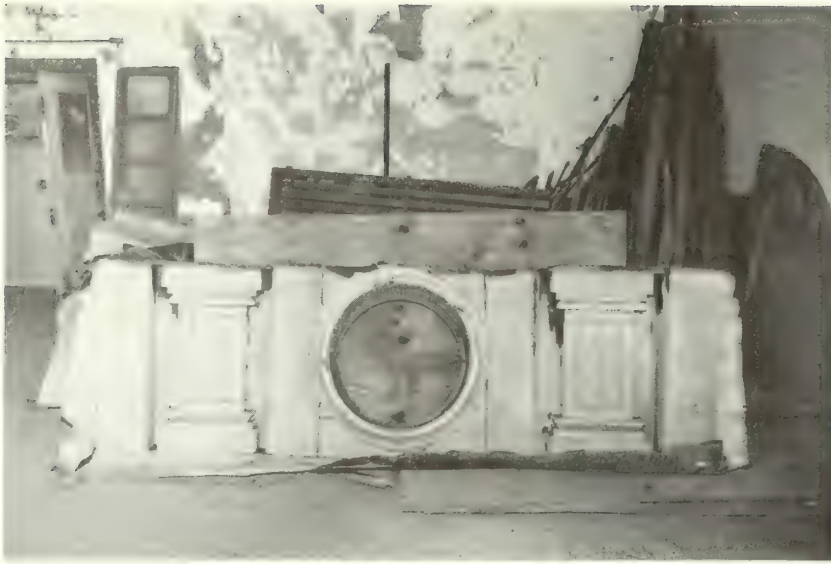
35. Wood framing and sheathing for Dome
ornamental copper; original fabric.
August, 1982.



36. Ornamental Copper Leaf and Scroll;
original fabric. August, 1982.



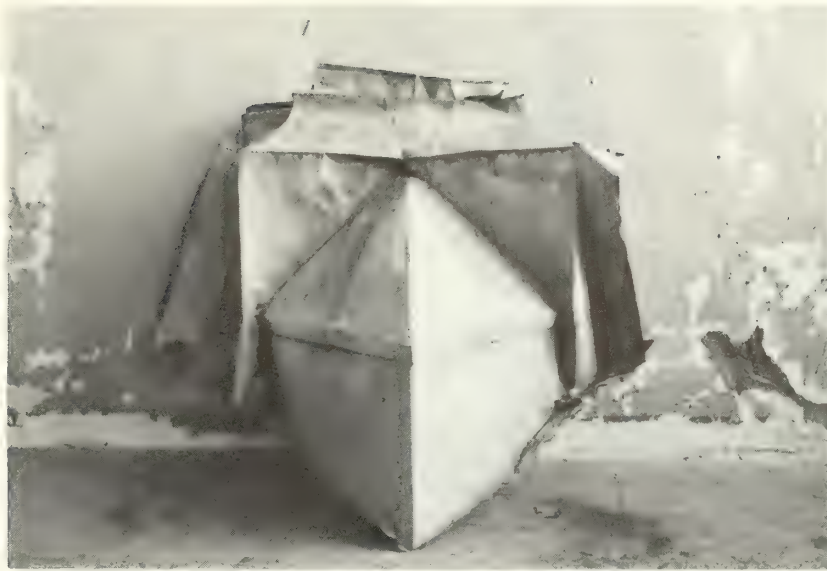
37. Ornamental Copper Bead and Reel Astragal;
original fabric. August, 1982.



38. Ornamental Copper Frieze Panel with Bulleseye Window; original fabric. August, 1982.



39. Ornamental Copper Bracket with cornice; original fabric. August, 1982.



40. Ornamental Copper Spur; original fabric. August, 1982.



41. Ornamental Copper Cornice with Cheneux and Cresting; original fabric for interior east and west wing roofs of Ellis Island Main Building. August, 1982.

X. DRAWINGS

The following 14 sheets of drawings (DSC No. 256/25009) were completed by Project Architects Peter F. Dessauer, Sally Small, and Raymond Todd of the Northeast Team, and graphic draughtsman Dan Savade of the Denver Service Center, National Park Service. These represent a record of existing/historic conditions as found by the architects while examining original ornamental copper fabric, both salvaged and still in situ, during field surveys in the Main Building of Ellis Island in preparation for the Historic Structure Report.



APR: JUNE 26, 1974. SHOWING VIEW OF WEST WING ROOF, CLERESTORY ROOF AND
OVERS OF THE ELLIS ISLAND MAIN BUILDING WITH SOME OF THE ORIGINAL (HISTORIC)
TAL COPPER FEATURES STILL INTACT THE ORNAMENTAL COPPER GLOBES FOR THE
DRY ROOF CORNER STONE BASES ARE MISSING

| SHEET NO. | SHEET TITLE |
|-----------|--|
| 14 | ORNAMENTAL COPPER DOME: ORIGINAL 1898-99 |
| | DESIGN |

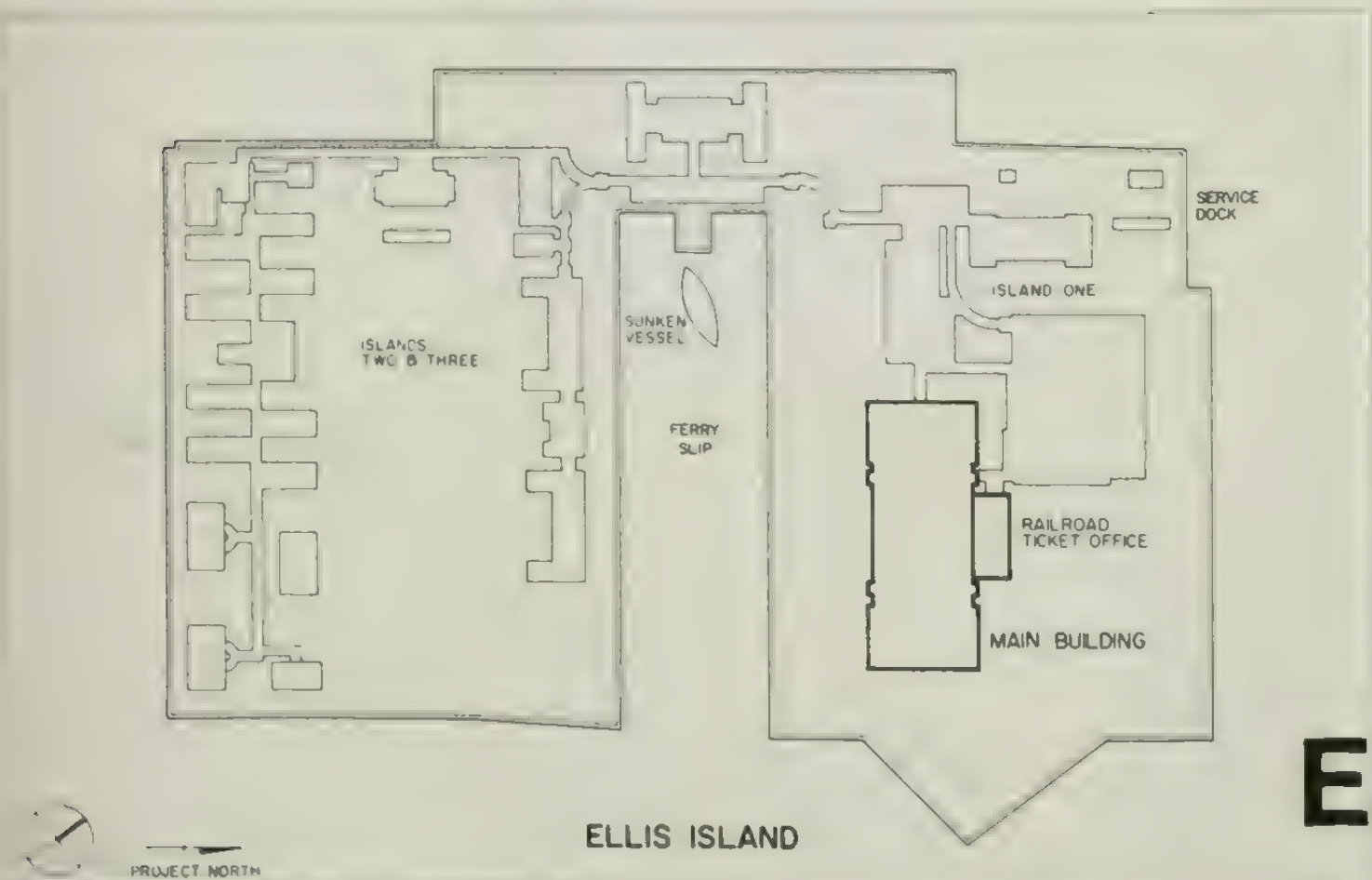
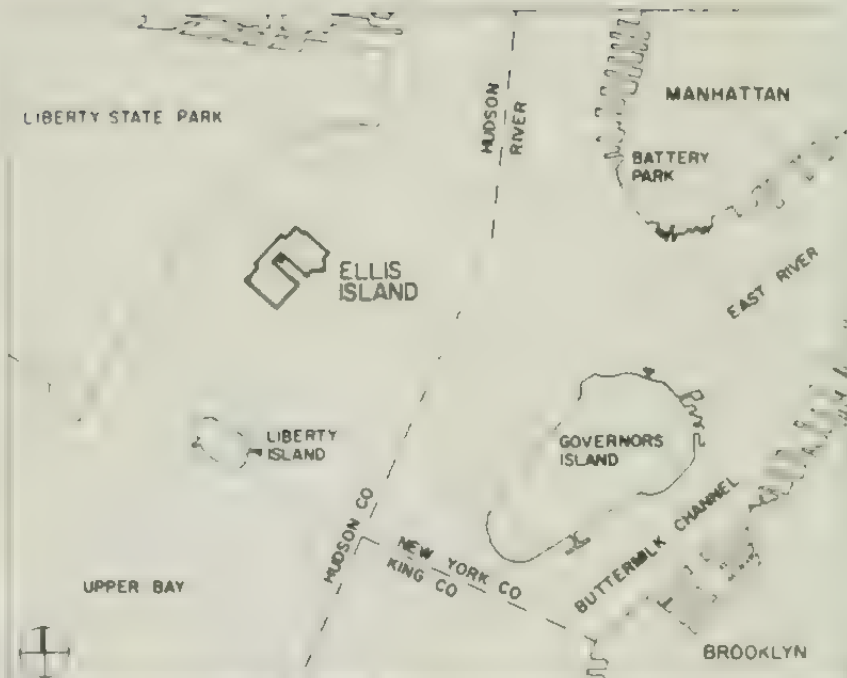


PROJECT NORTH

AIN BUILDING TORIC CONDITIONS

JRE REPORT - APPENDIX E

| | | | | |
|-------|-------------------|----------------------------|--------|------------|
| NS | DESIGNED | TITLE OF DRAWING | | DRAWING NO |
| | P DESSAUER | COVER SHEET | | 356 |
| ERIOR | DRAWN | LOCATION WITHIN PARK | | 25009 |
| | R TODD S SMALL | ELLIS ISLAND MAIN BUILDING | | |
| CE | TECH REVIEW | NAME OF PARK | | PKG NO |
| ER | P DESSAUER | STATUE OF LIBERTY | | 107 |
| | H LAFLAUR | REGION | COUNTY | STATE |
| | DATE 3/83 | NORTH-ATLANTIC | HUDSON | NEW JERSEY |
| | | | | SHEET |
| | | | | 1 |
| | | | | OF 14 |



NOTES: HSR DRAWINGS-APPENDIX E

- 1 THE PURPOSE OF THIS SET OF DRAWINGS IS TO INDICATE THE LOCATION OF HISTORIC COPPER FEATURES ON THE ELLIS ISLAND MAIN BUILDING ROOF AND TO ILLUSTRATE THE APPEARANCE AND ASSEMBLY OF THE HISTORIC ORNAMENTAL COPPER DOMES, CORNICES AND CRESTINGS
- 2 REMAINS OF THE HISTORIC ORNAMENTAL COPPER GLOBES WERE NEVER FOUND RECONSTRUCTION IS ILLUSTRATED ON SHEET NOS 35, 36, 37 OF DSC DRAWING SET 356/25010
- 3 THE DOME, CORNICE AND CRESTING DRAWINGS ARE MADE FROM INSPECTIONS AND MEASUREMENTS OF THE EXISTING PIECES OF ORNAMENTAL COPPER FEATURES DURING THE SUMMER OF 1982 BY DSC ARCHITECTS
- 4 "HISTORIC" REFERS TO THE EXISTING "AS BUILT" COPPER FABRIC INSTALLED WHEN THE BUILDING WAS ERECTED 1898-1900, AND ENLARGED 1912
- 5 THE HISTORIC COPPER DOMES AND COPPER GUTTER CORNICE CRESTINGS WITH CHENEUX WERE DISMANTLED AND REMAINING PIECES SALVAGED BY THE NPS 1977. THE HISTORIC COPPER CLERESTORY CORNICE AND GLOBE CORNICE ARE STILL IN-SITU
- 6 THE FINAL SHEETS NOS 13 AND 14 SHOW THE ORIGINAL BORING AND TILTON DESIGN FOR THE ORNAMENTAL COPPER DOMES, AS OPPOSED TO THE ACTUAL BUILT DESIGN ON SHEET NO 4
- 7 FOR REFERENCE TO RESTORATION OF THE ORNAMENTAL COPPER
DSC DRAWING SET NO 356/25010
DSC DRAWING SET NO 356/25012



PHOTOGRAPH JUNE 26, 1974 SHOWING VIEW OF WEST WING ROOF, CLERESTORY ROOF AND FOUR TOWERS OF THE ELLIS ISLAND MAIN BUILDING WITH SOME OF THE ORIGINAL (HISTORIC) ORNAMENTAL COPPER FEATURES STILL INTACT. THE ORNAMENTAL COPPER GLOBES FOR THE CLERESTORY ROOF CORNER STONE BASES ARE MISSING

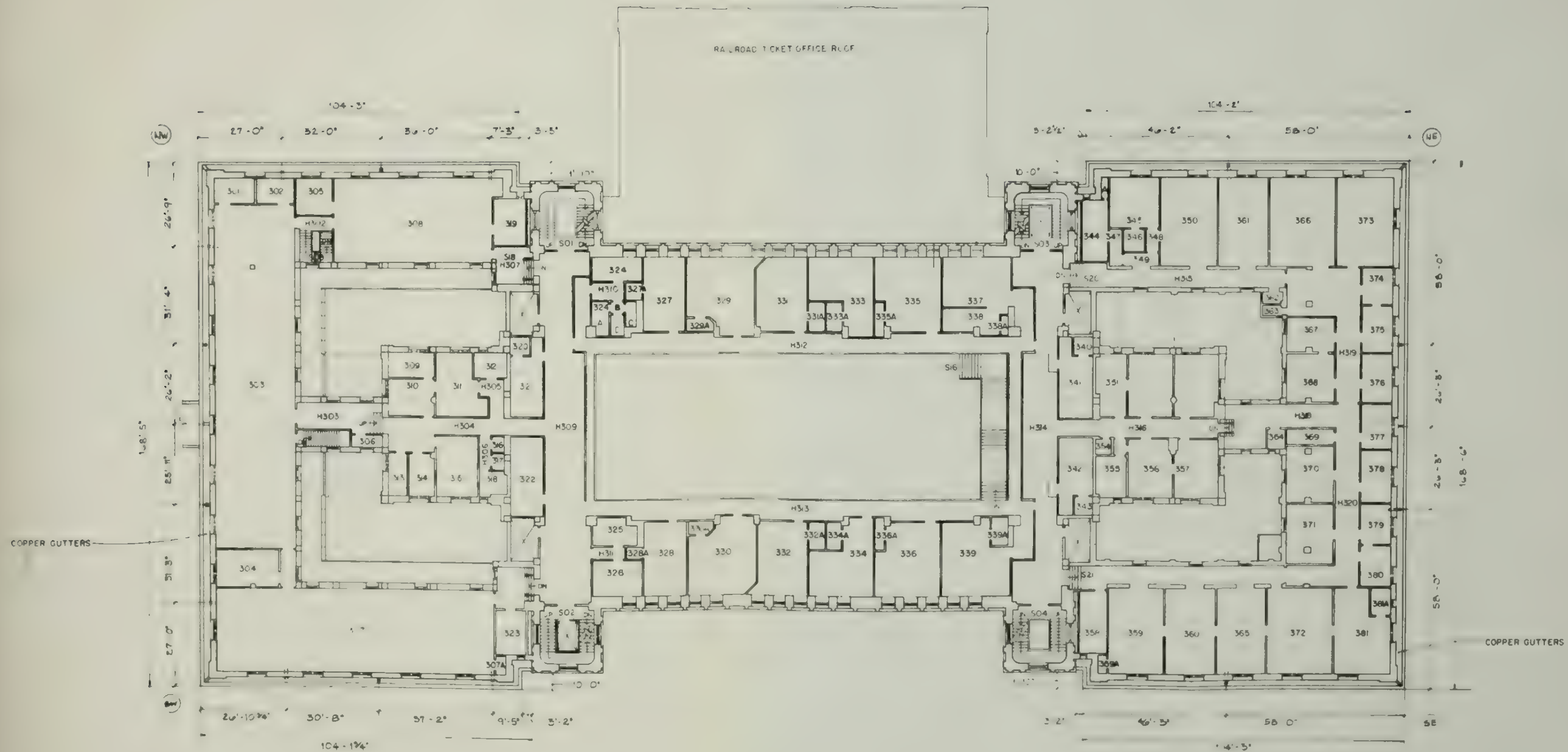
INDEX TO DRAWINGS

| SHEET NO | SHEET TITLE | SHEET NO | SHEET TITLE |
|----------|--|----------|--|
| 1 | COVER SHEET | 14 | ORNAMENTAL COPPER DOME: ORIGINAL 1898-99 |
| 2 | MAIN BUILDING THIRD FLOOR | | DESIGN |
| 3 | MAIN BUILDING ROOF | | |
| 4 | COPPER DOME ELEVATION | | |
| 5 | DOME SECTION | | |
| 6 | DOME FRAMING | | |
| 7 | DOME FRAMING PLAN | | |
| 8 | COPPER DOME PLAN | | |
| 9 | CLERESTORY CORNICE CRESTING | | |
| 10 | GLOBE CORNICE CRESTING | | |
| 11 | ORIGINAL TYPE COPPER CORNICE CRESTING | | |
| 12 | NEW TYPE COPPER CORNICE CRESTING | | |
| 13 | TOWER ELEVATION: ORIGINAL 1898-99 DESIGN | | |

ELLIS ISLAND MAIN BUILDING COPPER ROOF HISTORIC CONDITIONS

HISTORIC STRUCTURE REPORT - APPENDIX E

| HISTORIC CONDITIONS | DESIGNER | TITLE OF DRAWING | DRAWING NO. |
|---|---|--|---|
| UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE CENTER SERVICE CENTER | P. DESSAUER R. TODD S. SMA P. DESSAUER H. AF-4UR DATE 5/83 | COVER SHEET LOCATION WITHIN PARK ELLIS ISLAND MAIN BUILDING NAME OF PARK STATUE OF LIBERTY REGION NORTH ATLANTIC HUDSON STATE NEW JERSEY | 356 25009 PKG NO SHEET 07 1 OF 14 |



HISTORIC STRUCTURE REPORT-APPENDIX E

LEGEND
 - ALTER EXPANSION DOOR
 - INTERWALL DOWNSPOUT
 • GUTTER DOWNSPOUT

1 THIRD FLOOR PLAN

SCALE



PROJECT NORTH
 REFERENCE



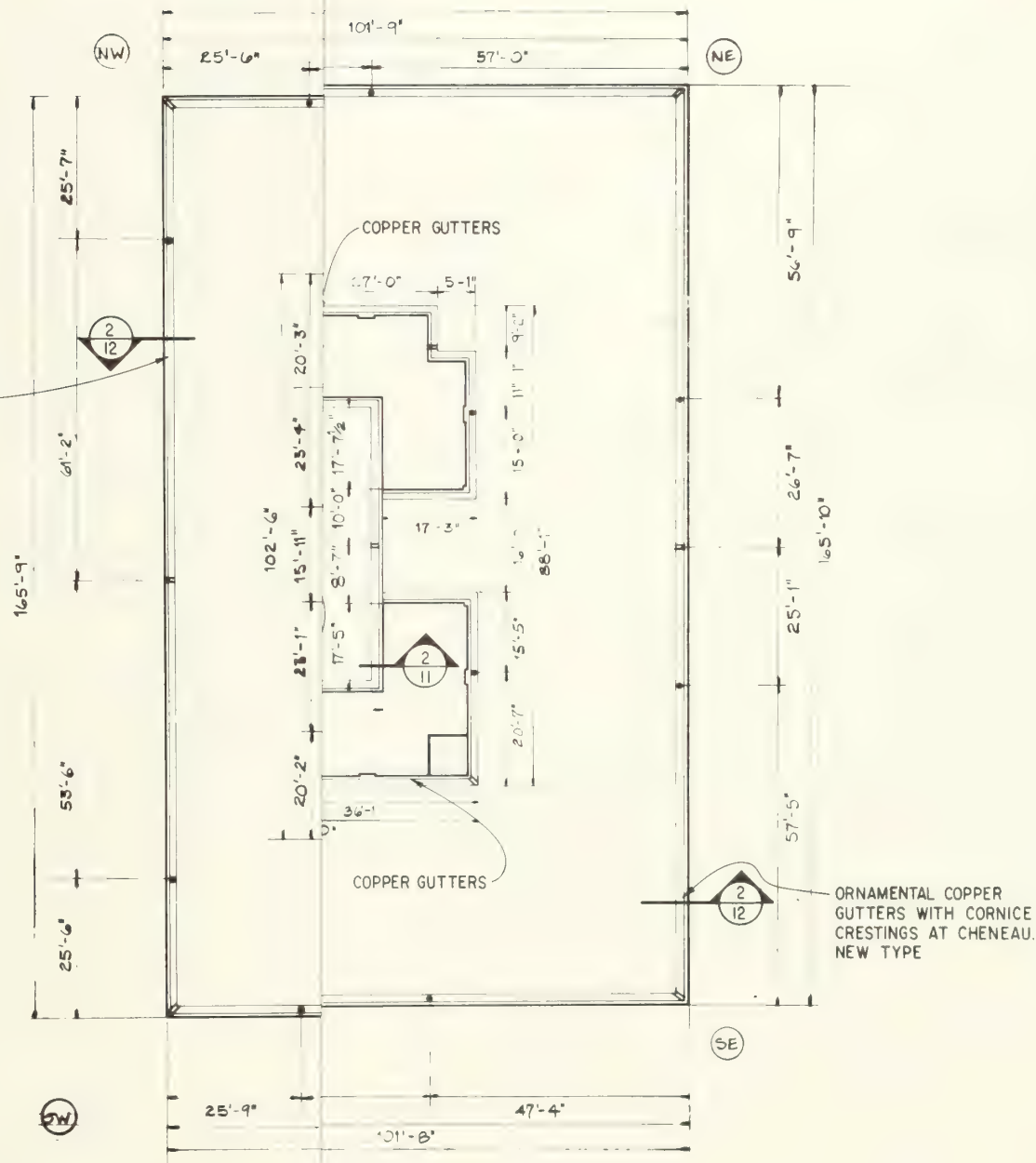
EXISTING
 P. DESSAUER
 P. DESSAUER
 2 82

MAIN BUILDING THIRD FLOOR

EXISTING CONDITIONS 1982

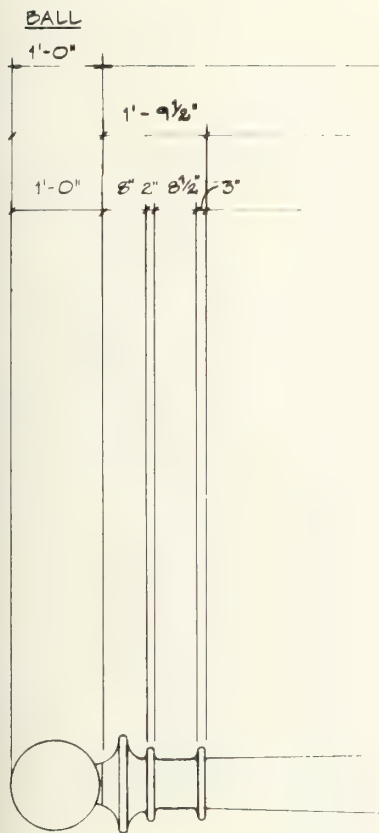
DRAWING NO. 356
 25009
 PKG NO. 107
 SHEET 2
 OF 14

ORNAMENTAL COPPER
GUTTERS WITH CORNICE
CRESTINGS AT CHENEAU.
NEW TYPE.



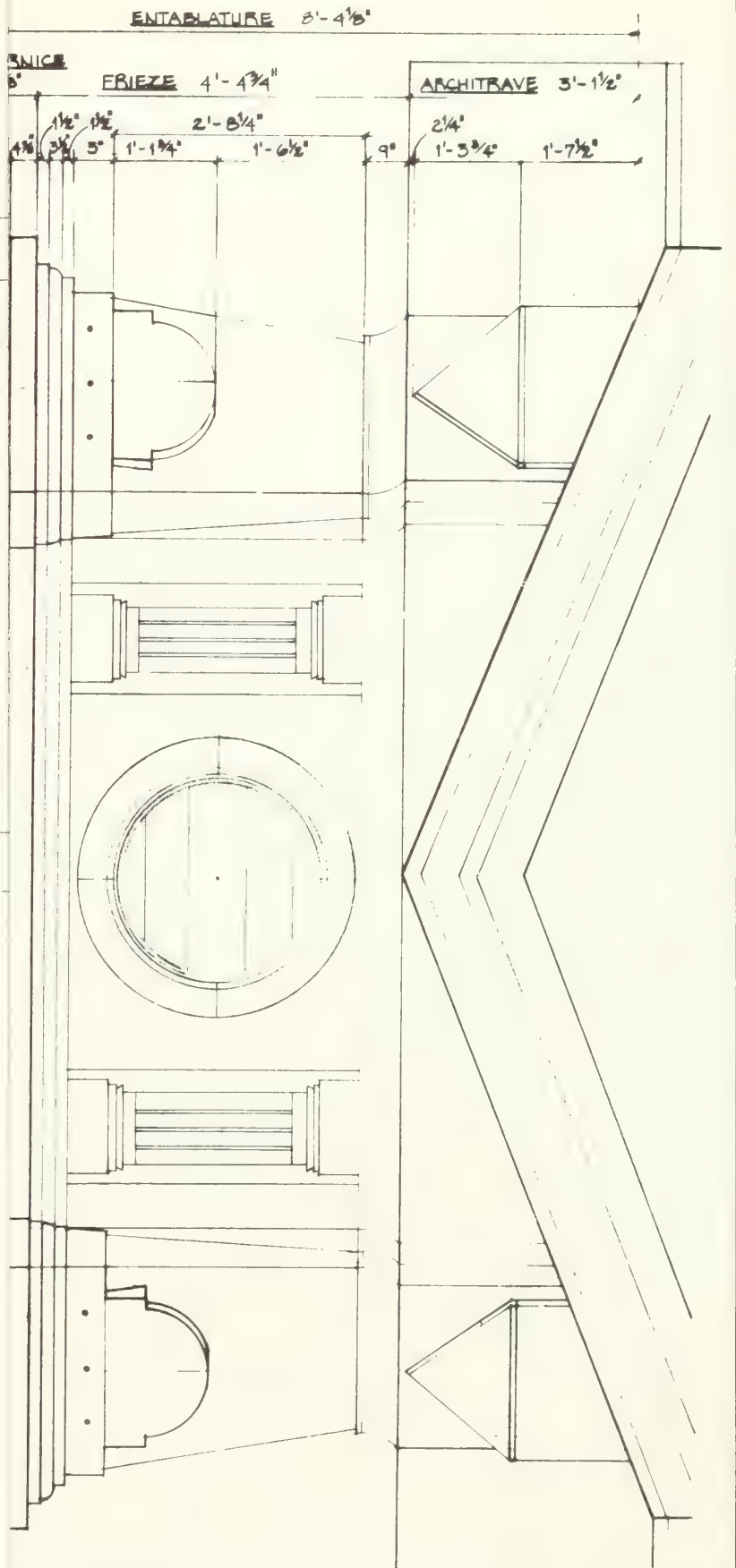
STORIC STRUCTURE REPORT - APPENDIX E

| | | | |
|----------------------|--------------|---|----------------------------|
| IGNED XISTING | SUB SHEET NO | TITLE OF SHEET | DRAWING NO 356 25009 |
| WN DESSAUER | | MAIN BUILDING ROOF | PKG NO 107 |
| H REVIEW DESSAUER | | LOCATION OF HISTORIC COPPER FEATURES AS INSTALLED ON THE ROOF BETWEEN 1900 - 1912 | SHEET 3 |
| E 12/82 | | | OF 14 |

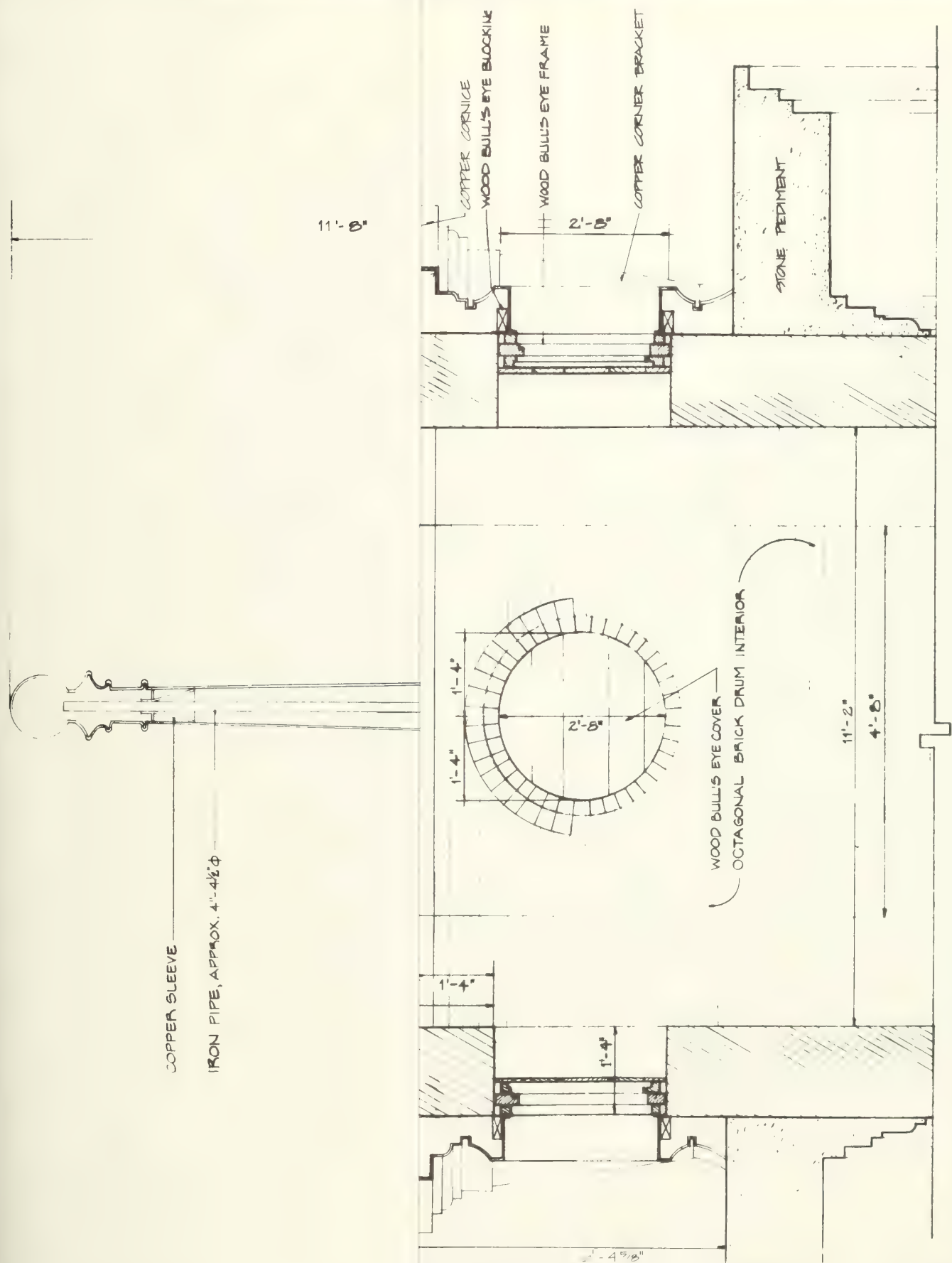


COLUMN
9'-9 1/2"

SHAFT
6'-2 1/2"



| | | | |
|----------------------|---------------|---|-------------|
| DESIGNED ORIGINAL | SUB SHEET NO. | TITLE OF SHEET | DRAWING NO. |
| IN | | COPPER DOME ELEVATION AS BUILT-1900 ELLIS ISLAND MAIN BUILDING COPPER DOME AS CONJECTURED FROM HISTORIC PHOTOS AND FROM EXISTING PIECES AS STORED IN COPPER STORAGE ROOMS. | 356 |
| SMALL | | | 25009 |
| REVIEW | | | |
| DESSAUER | | | PKG NO. 107 |
| 9/82 | | | SHEET 4 |
| | | | OF 14 |



ORIGINAL
N
L/DESSAUER

REVIEW:
ESSAUER
12 / 82

SUB SHEET NO

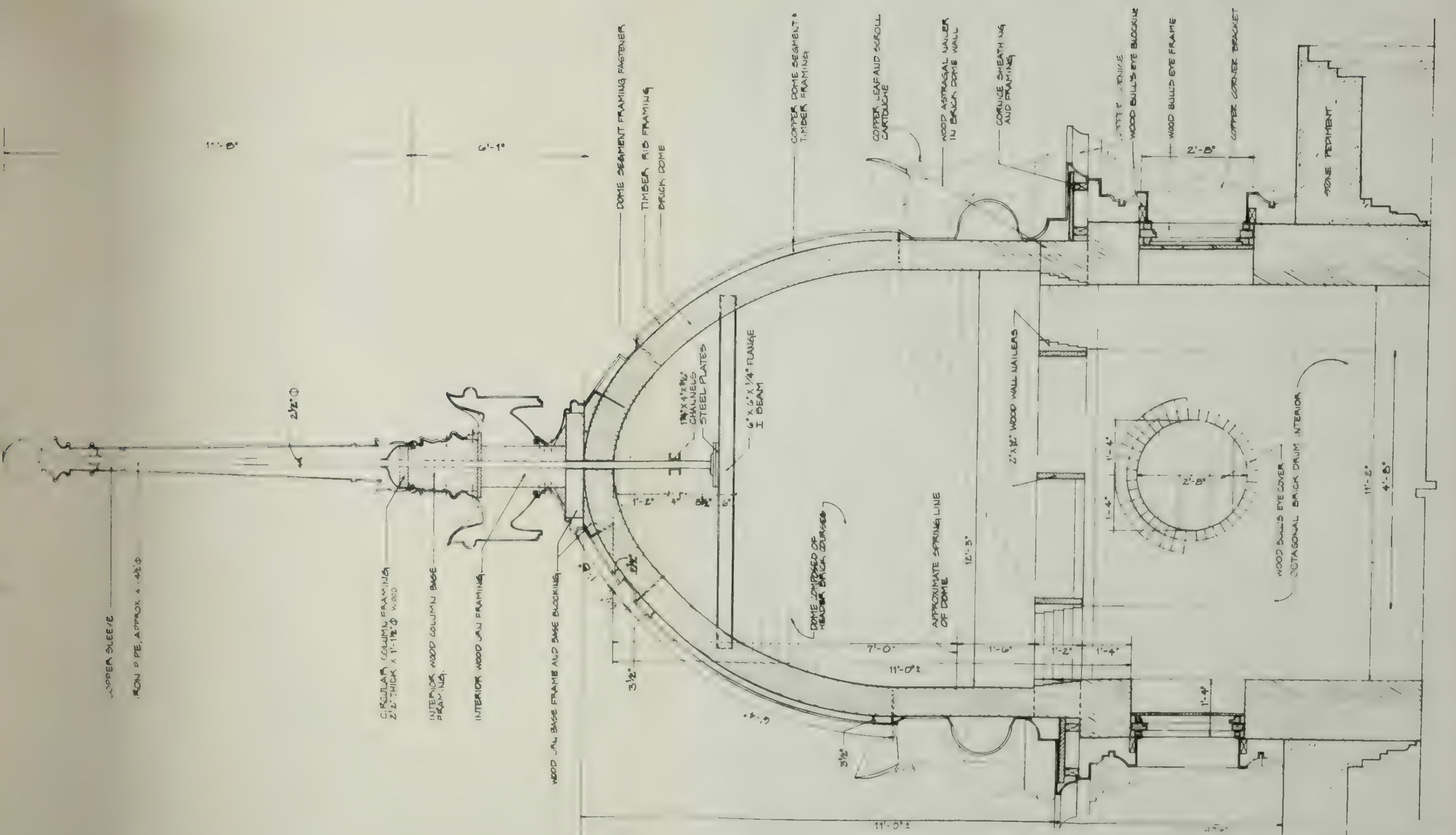
TITLE OF SHEET

DOME SECTION

HISTORIC CONDITIONS AS CONJECTURED FROM
HISTORIC PHOTOGRAPHS AND EXISTING PIECES
AS STORED AT ELLIS ISLAND MAIN BUILDING.
MEASUREMENTS FROM SOUTHWEST TOWER.

DRAWING NO.
356
25009

PKG.
NO. 107
SHEET 5
OF 14



1 DOME SECTION
5 NO SCALE

HISTORIC STRUCTURE REPORT - APPENDIX E

| | | | |
|-----------------------------|-----------|---|---------------------|
| DESIGNED ORIGINAL | SHEET NO. | TITLE OF SHEET | DRAWING NO. |
| DRAWN SMAL/DESSAUER | | DOME SECTION | 356 25009 |
| TECH. REVIEW P. DESSAUER | | HISTORIC CONDITIONS AS CONJECTURED FROM HISTORIC PHOTOGRAPHS AND EXISTING PIECES AS STORED AT ELLIS ISLAND MAIN BUILDING MEASUREMENTS FROM SOUTHWEST TOWER | PKG NO 107 |
| DATE 12/82 | | | SHEET 5 OF 14 |

2 1/2" Ø IRON PIPE

WOOD URM BASE FRAMING AND BLOCKING.

TIMBER RIB FRAMING AND BLOCKING
1 1/4" X 2 1/2"

BRICK DOME

WOOD BEAD AND REEL ASTRAGAL
NAILERS IN BRICK DOME.

WOOD CORNICE FRAMING 2X4'S
SHEATHING 3/4" X 3"

1
7

WOOD BRACKET FRAMING
2 1/4" X 4"

WOOD SPUR FRAMING 2X4'S
SHEATHING 3/4" X 3" T&G.

DESIGNED
ORIGINAL

OWN:
SMALL

BY: REVIEW
DESSAUER

DATE: 9 / 82

SUB SHEET NO

TITLE OF SHEET

DOMES FRAMING

ELLIS ISLAND MAIN BUILDING DOME FRAMING
AS CONJECTURED FROM HISTORIC PHOTOS
AND FROM EXISTING PIECES AS STORED
IN COPPER STORAGE ROOMS.

DRAWING NO

356
25009

PKG.
NO.
107

SHEET

6

OF 14

COPPER CARTOUCHE BASE

WOOD CORNICE FRAMING, 2" x 3 3/4" THICK.
SHEATHING OVER FRAMING NOT SHOWN.

COPPER ASTRAGAL BASE

EXISTING STONE TOWER CORNICE

EXISTING OCTAGONAL BRICK DRAIN

COPPER CORNICE

EXISTING BRICK DOME

WOOD ASTRAGAL NAILER IMBEDDED
IN BRICK WALL OF DOME, 2" x 12" x 12" (TYP.)

3/4" x RANDOM WIDTH WOOD CORNICE SHEATHING.

3/4" x 2 3/4" WOOD T&G CARTOUCHE SHEATHING.

HISTORIC STRUCTURE REPORT - APPENDIX E

| | | | | | |
|--|------------------------|--------------|--|-----------------------------------|--|
| <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"><div style="writing-mode: vertical-rl; transform: rotate(180deg);">1</div><div style="writing-mode: vertical-rl; transform: rotate(180deg);">7</div></div> | DESIGNED ORIGINAL | SUB SHEET NO | TITLE OF SHEET DOMES FRAMING PLAN DOMES FRAMING HISTORIC CONDITIONS AS CONJECTURED FROM HISTORIC PHOTOGRAPHS AND FROM EXISTING PIECES AS STORED IN COPPER STORAGE ROOMS. | DRAWING NO 356 25009 | |
| | DRAWN: DESSAUER | | | PKG. NO. 107 | SHEET <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">7</div> |
| | CH. REVIEW DESSAUER | | | | |
| | DATE 9 / 82 | | | | OF 14 |
| | | | | | |

COPPER CAPTUCHE BASE

COPPER ASTRAGAL BASE

COPPER CORNICE

WOOD JOIST FRAMING 2 x 3 1/2 THICK
SHEATHING OVER FRAMING NOT SHOWN

EXISTING STONE TOWER CORNICE

EXISTING OCTAGONAL BRICK DRAIN

EXISTING BRICK DOME

WOOD ASTRAGAL WALL MEETS D
IN BRICK WALL OF DOME 2" x 12" x 12" TYP

3/4" x RANDOM WIDTH WOOD JOIST SHEATHING

3/4" x 2 1/2" WOOD TAG CAPTUCHE SHEATHING

OCTAGONAL DRUM DIAMETER 11'-2"
DOME DIAMETER 12'-3"

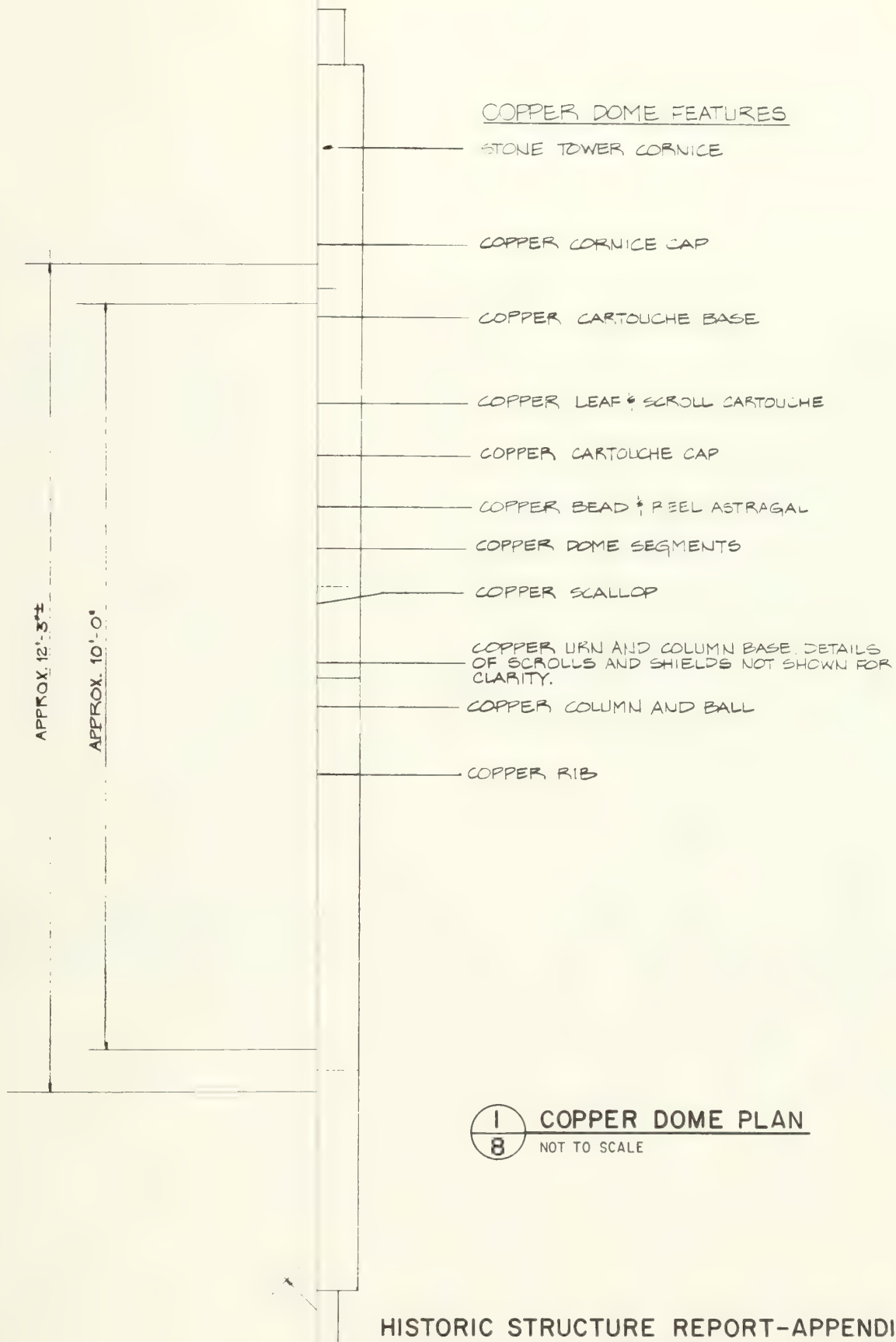
2 1/2"

1 PLAN SECTION - COPPER DOME FRAMING
7 NOT TO SCALE

20'-7" x

HISTORIC STRUCTURE REPORT - APPENDIX E

| | | | |
|-----------------------------|----------|---|-----------------------------|
| DATE ORIGINAL | 8 SHEETS | FILE OF SHEET | DRAWING NO. 356 25009 |
| DRAWN P. DESSAUER | | DOME FRAMING PLAN | PKG NO 107 |
| TECH. REVIEW P. DESSAUER | | DOME FRAMING HISTORIC CONDITIONS AS CONJECTURED FROM HISTORIC PHOTOGRAPHS AND FROM EXISTING PIECES AS STORED IN COPPER STORAGE ROOMS | SHEET 7 |
| DATE 9/82 | | | OF 14 |



1
8

COPPER DOME PLAN

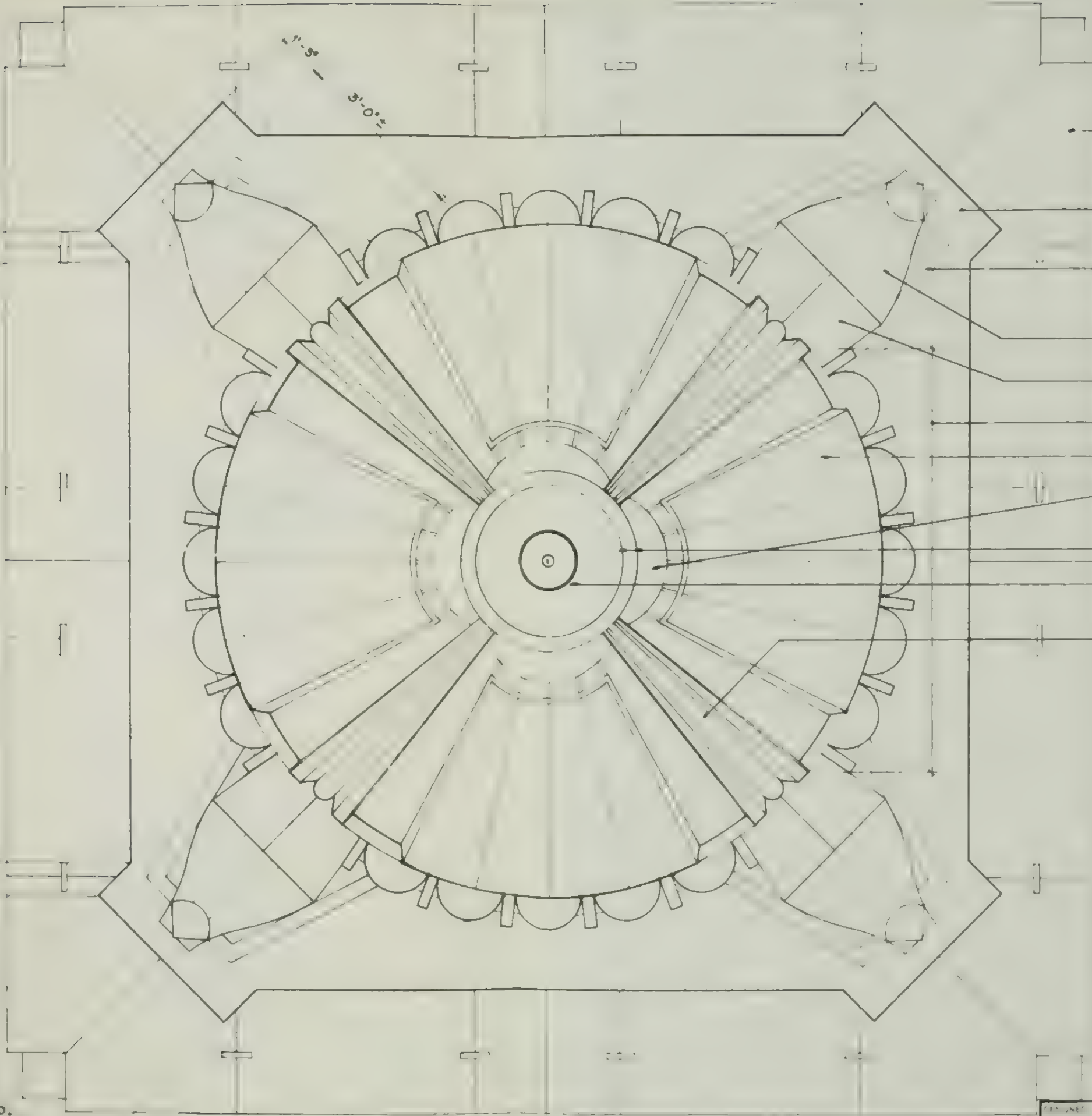
NOT TO SCALE

HISTORIC STRUCTURE REPORT-APPENDIX E

| | | | |
|-----------------------|---------------|---|-----------------------------|
| DESIGNED ORIGINAL | SUB SHEET NO. | TITLE OF SHEET | DRAWING NO. 356 25009 |
| BY SMALL | | COPPER DOME PLAN | PKG. NO. 107 |
| IN REVIEW DESSAUER | | ELLIS ISLAND MAIN BUILDING COPPER DOME AS CONJECTURED FROM HISTORIC PHOTOS AND FROM EXISTING PIECES AS STORED IN COPPER STORAGE ROOMS. | SHEET 8 |
| DATE 9/82 | | | OF 14 |

APPROX 12'-3"

APPROX 10'-0"

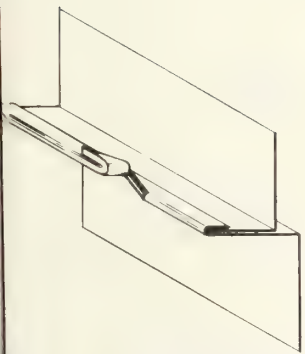


1 COPPER DOME PLAN
8 NOT TO SCALE

HISTORIC STRUCTURE REPORT-APPENDIX E

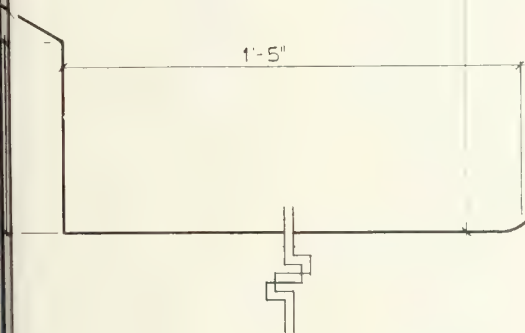
| ORIGINAL | | TITLE OF SHEET | | DRAWING NO | |
|-------------|--|------------------|--|------------|--|
| DRAWN | | COPPER DOME PLAN | | 356 | |
| S SMALL | | | | 25009 | |
| TECH REVIEW | | | | PKG NO | |
| P DESSAUER | | | | 107 | |
| DATE 9/02 | | | | SHEET | |
| | | | | 8 | |
| | | | | OF 14 | |

ELLIS ISLAND MAIN BUILDING COPPER DOME
AS CONJECTURED FROM HISTORIC PHOTOS
AND FROM EXISTING PIECES AS STORED
IN COPPER STORAGE ROOMS



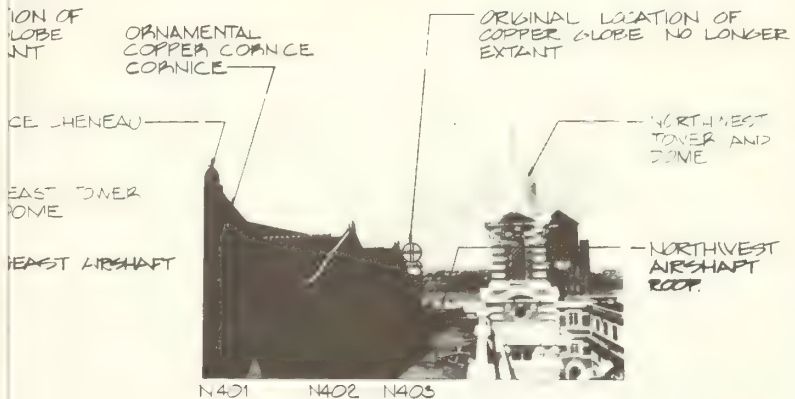
3 CONNECTION DET.

9 NO SCALE SEAM ANGLE CUT AND FOLDED BACK FOR CONNECTION.



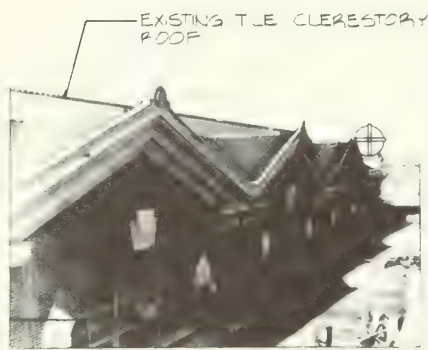
NOTE

THE CLERESTORY CORNICE WAS NOT THEREFORE, HISTORIC AND/OR EXIST CONDITIONS OF FRAMING AND BLOWING ROOF COULD NOT BE RECORDED. PROBABLE SIMILAR TO THAT FOUND ON SHEET 11 AND 12.



N401 N402 N403

3 NORTH CLERESTORY TERRACE
9 VIEW WEST



N401 N402 N403

5 NORTH CLERESTORY CORNICES
9 AND CLERESTORY WINDOWS

BETWEEN CLERESTORY ROOF EXISTING CLERESTORY SUTTER



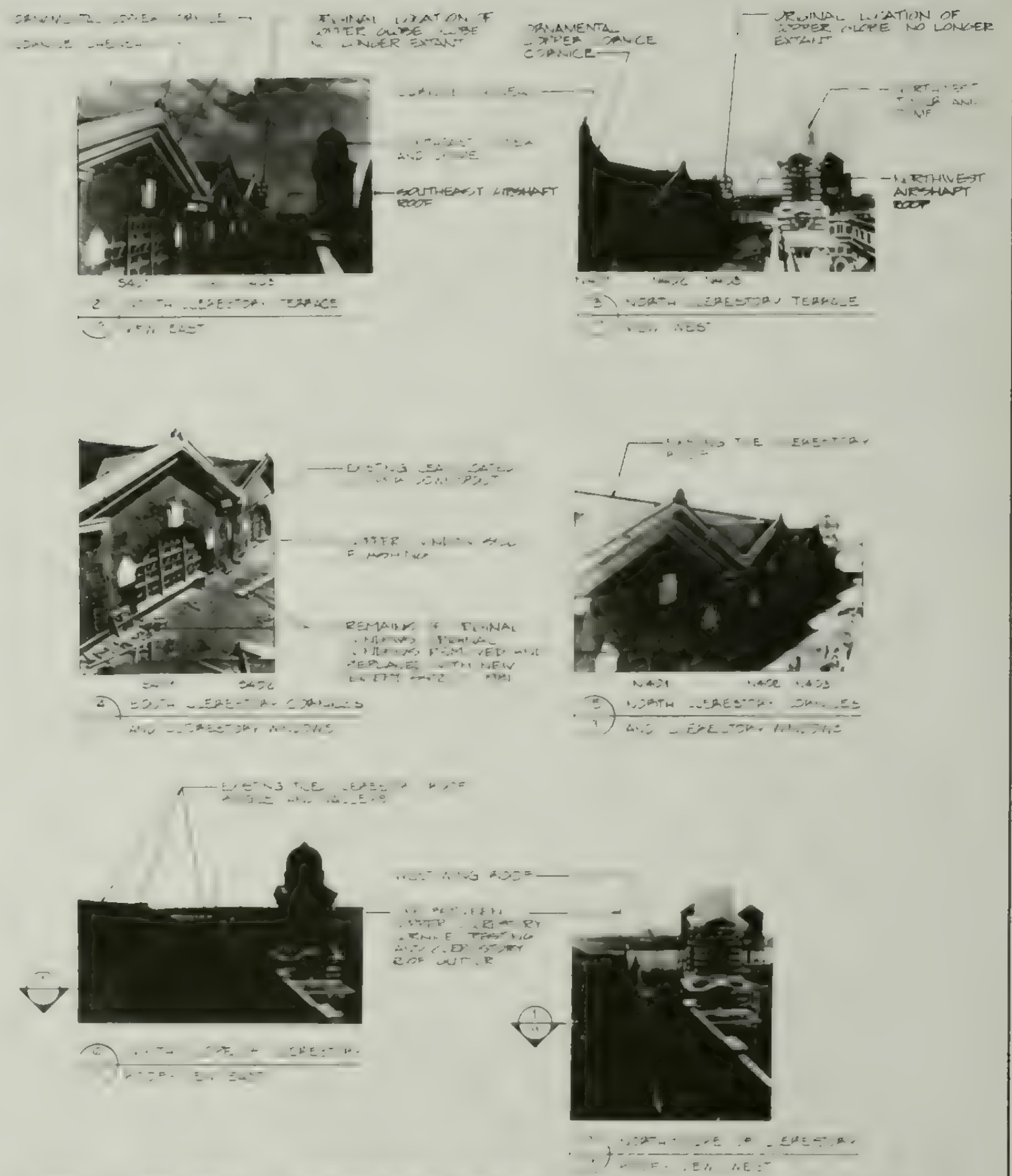
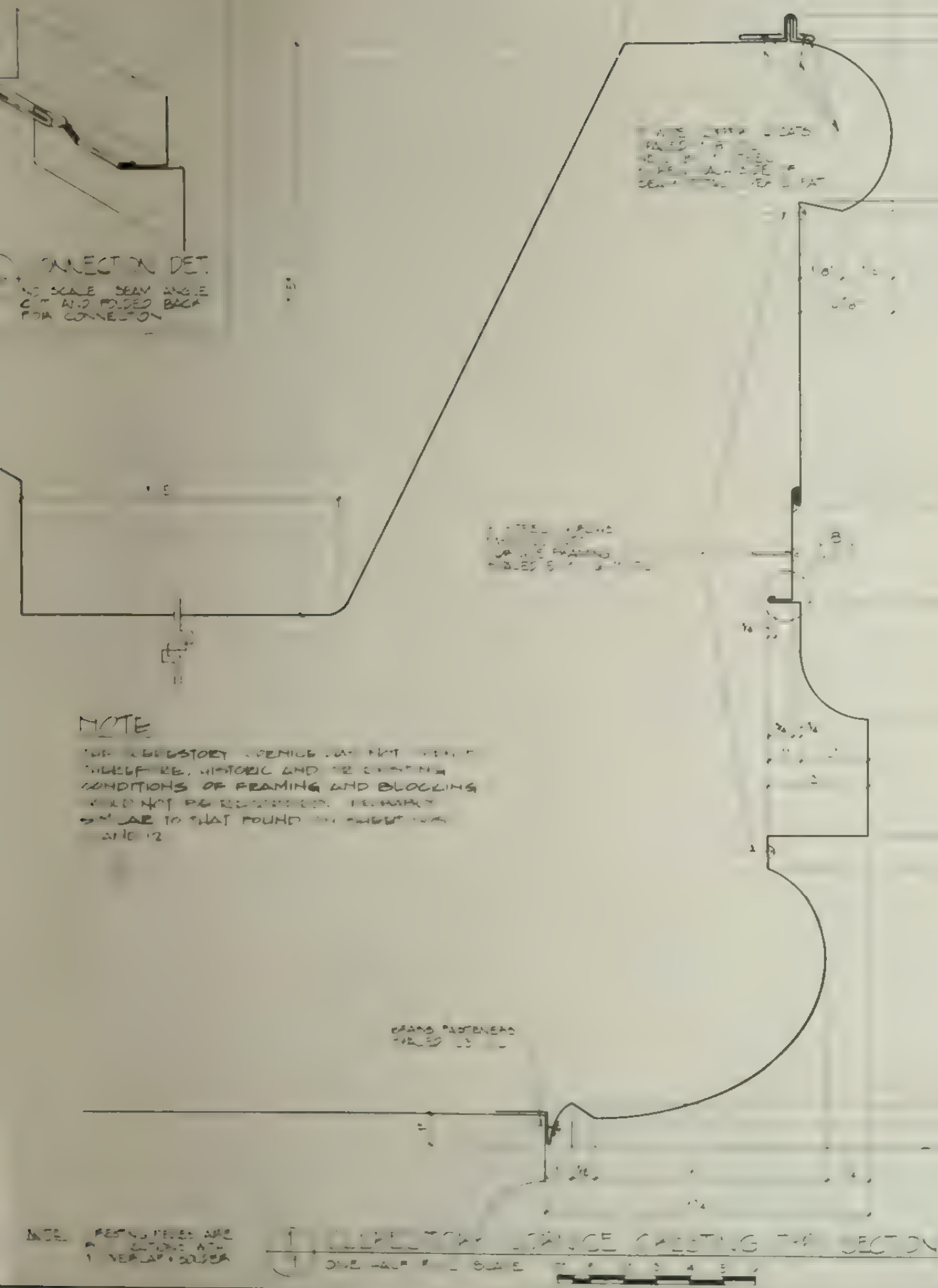
7 NORTH SLOPE OF CLERESTORY
9 ROOF - VIEW WEST

15 (TYP) CLERESTORY CORNICE CRESTING HISTORIC STRUCTURE REPORT-APPENDIX E

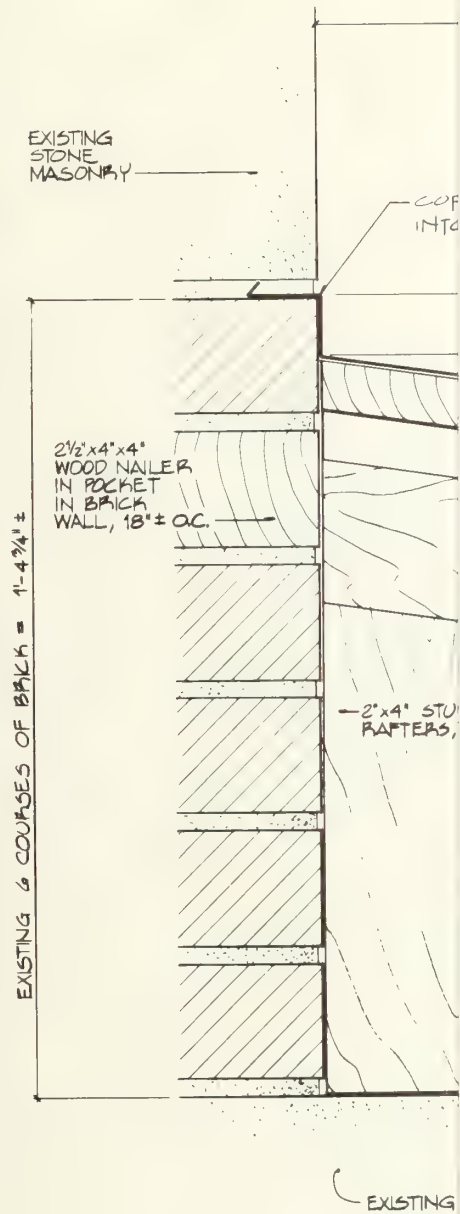
| DESIGNED BY | SUB SHEET NO | TITLE OF SHEET | DRAWING NO |
|-------------|--------------|-----------------------------|--------------|
| ORIGINAL | | CLERESTORY CORNICE CRESTING | 356 25009 |
| TODD | | | PKG NO |
| REVIEW | | | 107 |
| ESSAUER | | | SHEET |
| 2/83 | | | 9 |
| | | | OF 14 |

NOTE: CRESTING PIECES ARE 8'-0" SECTIONS WITH 1" OVERLAP + SOLDER.

1 CLERESTORY
9 ONE HALF



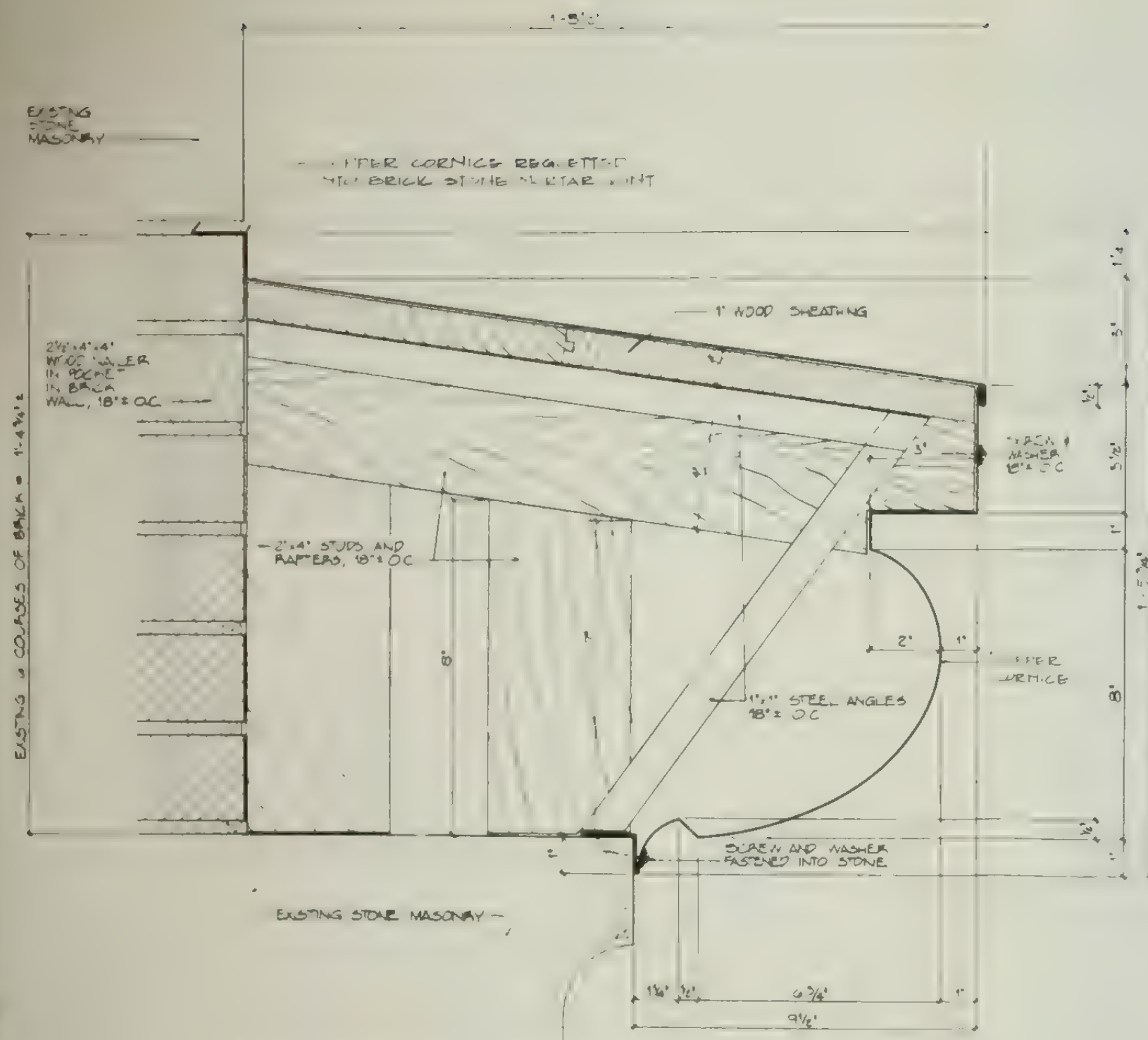
| EXISTING CONDITIONS - PHOTO PLETH THE CLERESTORY CORNICE CRESTING | | | |
|---|--|--|--|
| HISTORIC STRUCTURE REPORT-APPENDIX E | | | |
| ORIGINAL | | CLERESTORY CORNICE CRESTING | |
| R TODD | | HISTORIC COPPER EXISTING CONDITIONS, AS MEASURED IN SITU, ELLIS ISLAND MAIN BUILDING, OCTOBER 1982 | |
| P DESSAUER | | 356 25009 | |
| 2 83 | | SHEET 9 OF 14 | |



1 SE
10 ONE

HISTORIC STRUCTURE REPORT-APPENDIX E

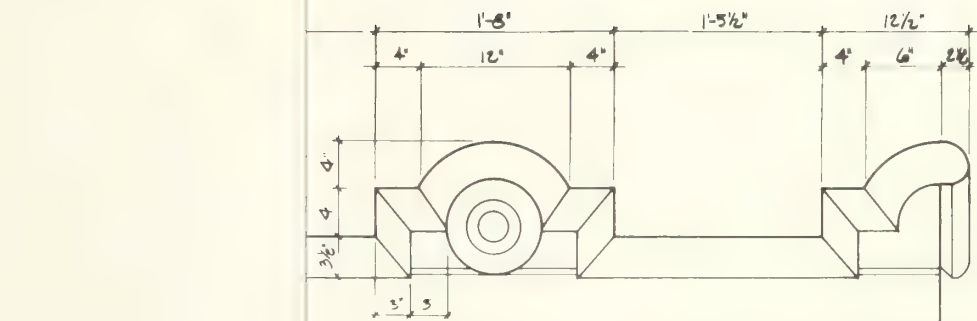
| | | | |
|----------------------|---------------|--|----------------------|
| DESIGNED ORIGINAL | SUB SHEET NO. | TITLE OF SHEET | DRAWING NO. |
| BY TODD | | GLOBE CORNICE CRESTING | 356 25009 |
| REVIEW DESSAUER | | HISTORIC COPPER EXISTING CONDITIONS, AS MEASURED IN SITU, ELLIS ISLAND MAIN BUILDING, AUGUST 1982. | PKG. NO. 107 |
| DATE 2/83 | | | SHEET 10 OF 14 |



① SECTION (TYP) GLOBE CORNICE CRESTING
 ONE HALF FULL SCALE 0' 1' 2' 3' 4' 5' 6'

HISTORIC STRUCTURE REPORT-APPENDIX E

| | | | |
|--|---------------------------|--|---|
| ORIGINAL DRAWN R. TODD CHECKED P. DESSAUER DATE 2/83 | SHEET NO. 356 25009 | GLOBE CORNICE CRESTING HISTORIC COPPER EXISTING CONDITIONS, AS MEASURED IN SITU, ELLIS ISLAND MAIN BUILDING, AUGUST 1982 | DRAWING NO. 356 25009 PKG NO. 107 SHEET 10 OF 14 |
|--|---------------------------|--|---|

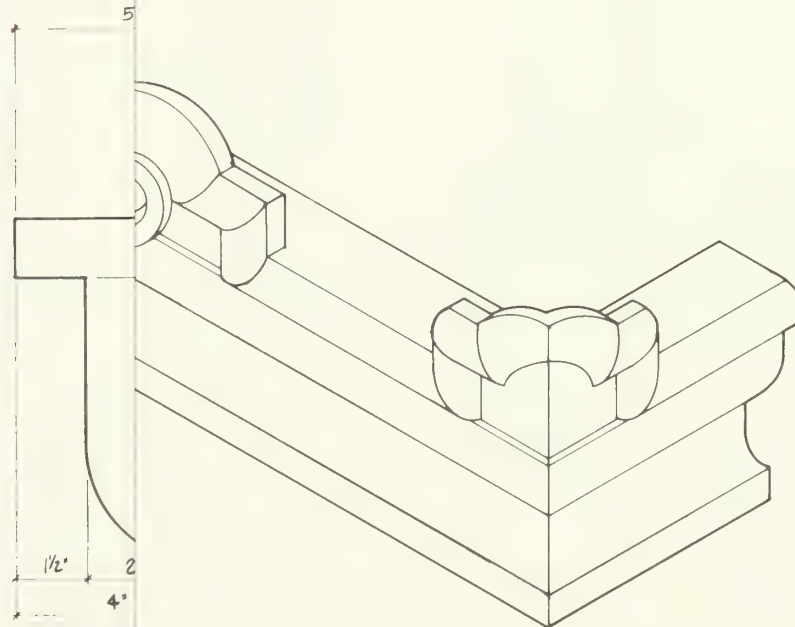
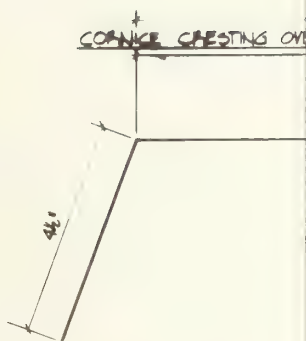
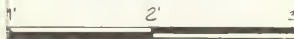


CORNICE CRESTING ON

OVERLAP AND SOLDER SEAM. - COPPER BOLTS, WASHERS, AND NUTS
CORNICE SHEETS ARE 8'-0" LONG - CONNECTING CRESTING TO IRON FRAMING
BRACKETS, SPACED APPROX. 3'-0" O.C.

ON (TYP.) ORIGINAL TYPE COPPER CRESTING

OF CENTRAL ROOF SCALE: 1/2" = 1'-0"



STONE MASONRY

CORNER ISOMETRIC

NOT TO SCALE



HISTORIC STRUCTURE REPORT-APPENDIX E

1
11

SECTION

COPPER

PERMETER ON

INTERIOR CRESTING

WOOD BLOCKING

DESIGNED
ORIGINAL

BY
TODD

REVIEW
DESSAUER

DATE
1/83

SUB SHEET NO

TITLE OF SHEET

ORIGINAL TYPE COPPER
CORNICE CRESTING-1900

HISTORIC COPPER EXISTING CONDITIONS AS
MEASURED IN COPPER STORAGE ROOMS, ELLIS
ISLAND MAIN BUILDING, AUGUST 1982.

DRAWING NO

356
25009

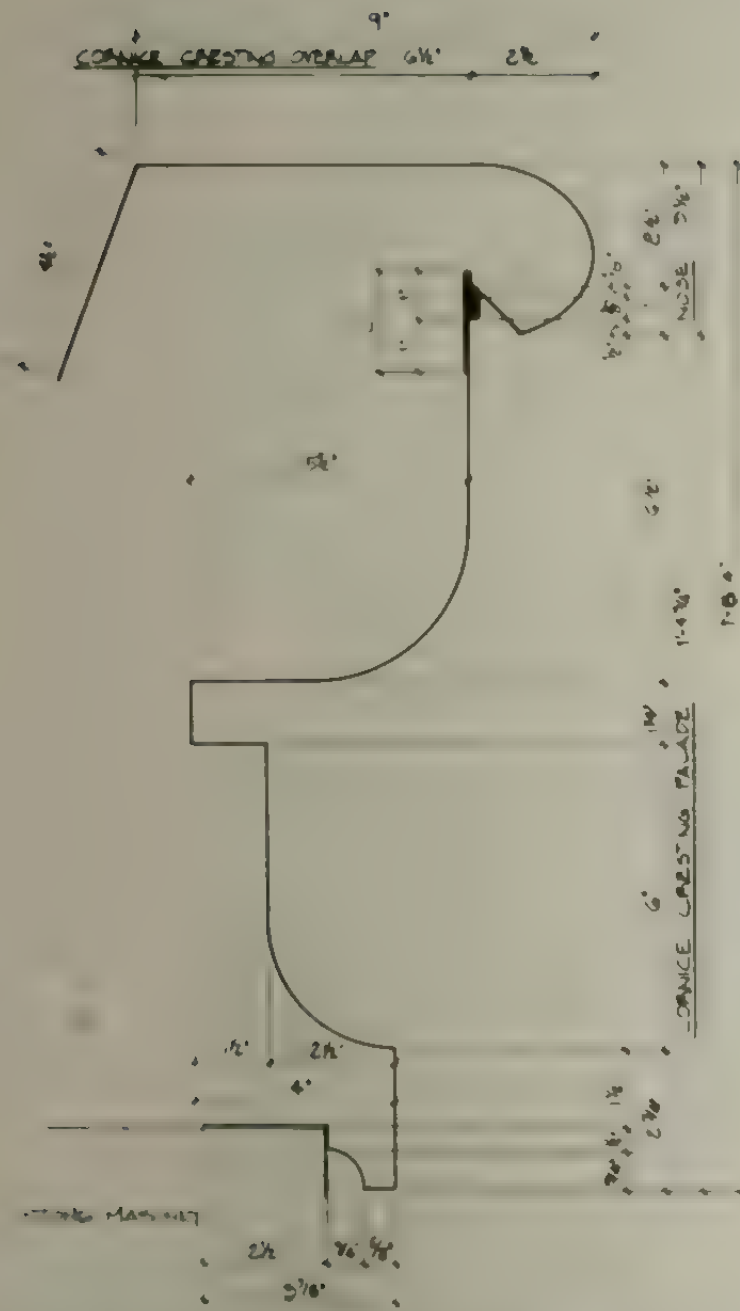
PKG.
NO.

107

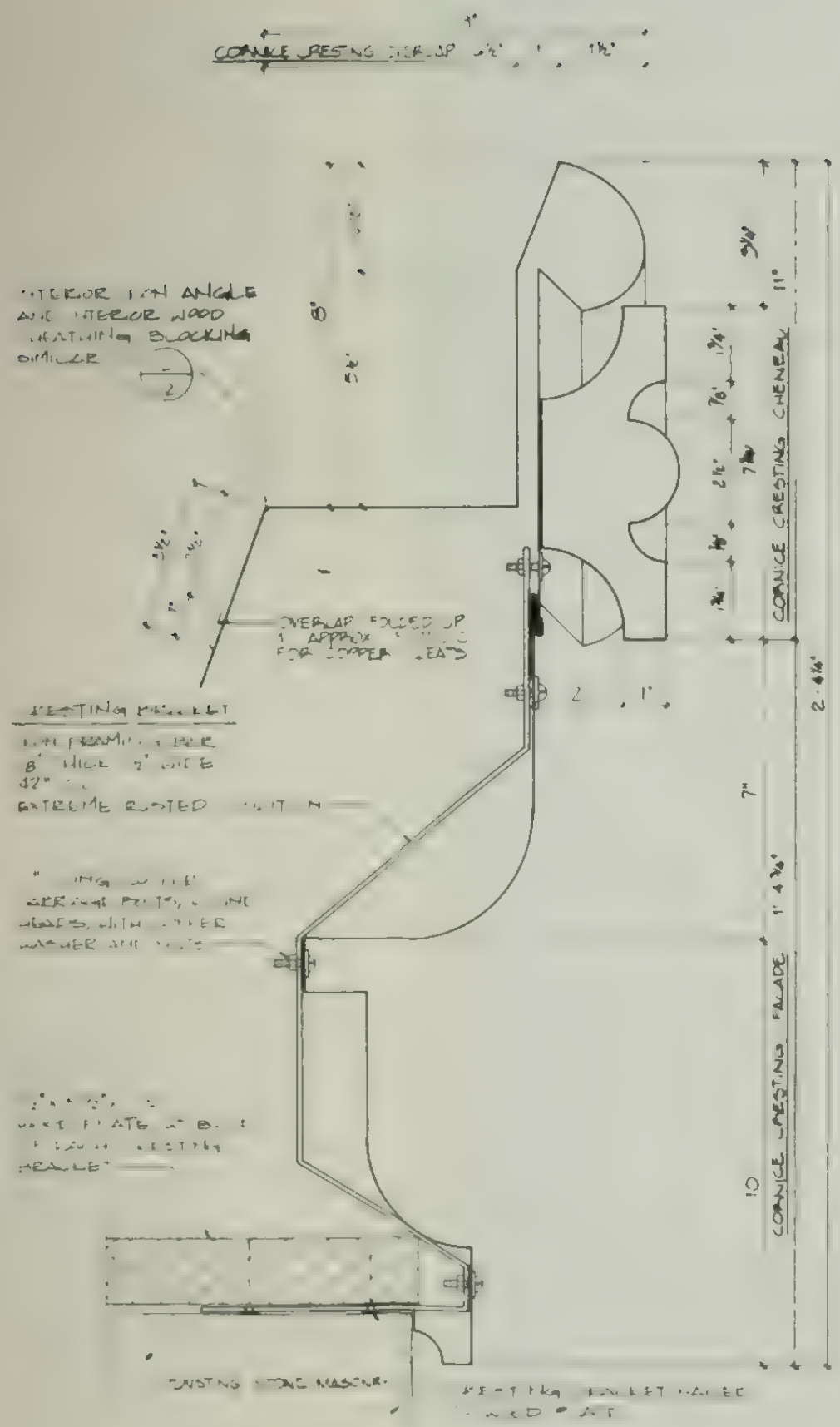
SHEET

11

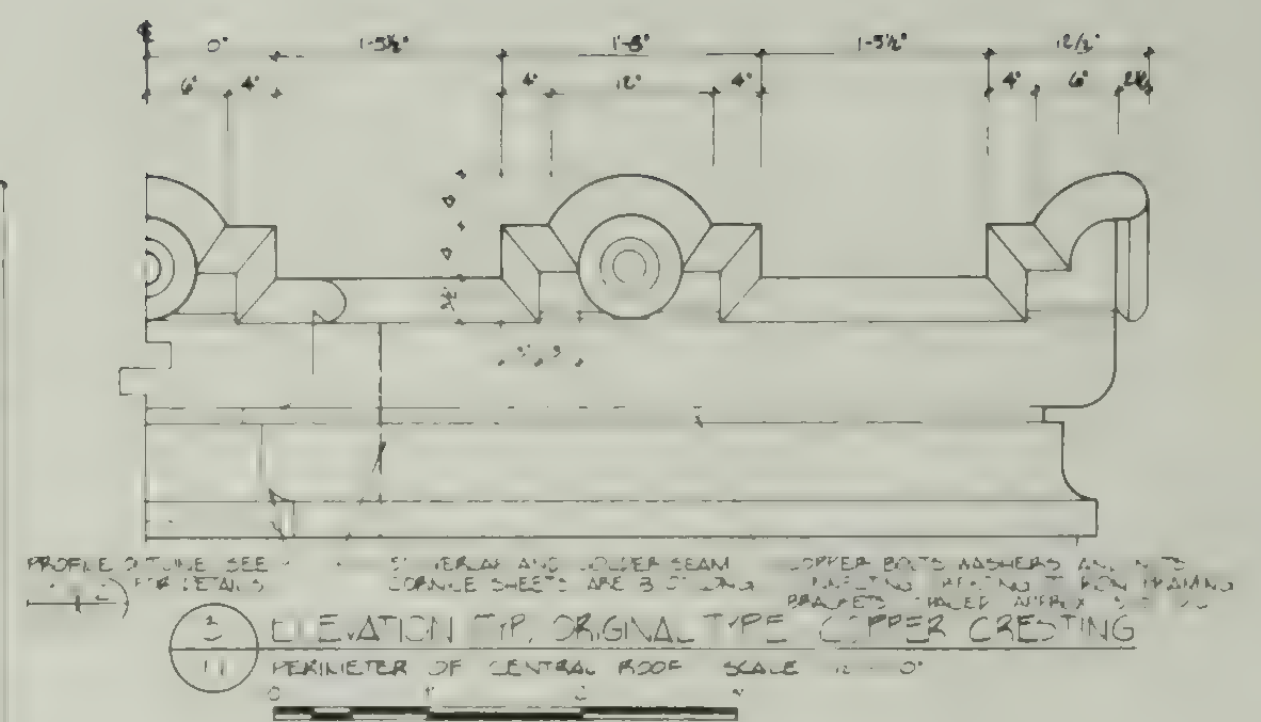
OF 14



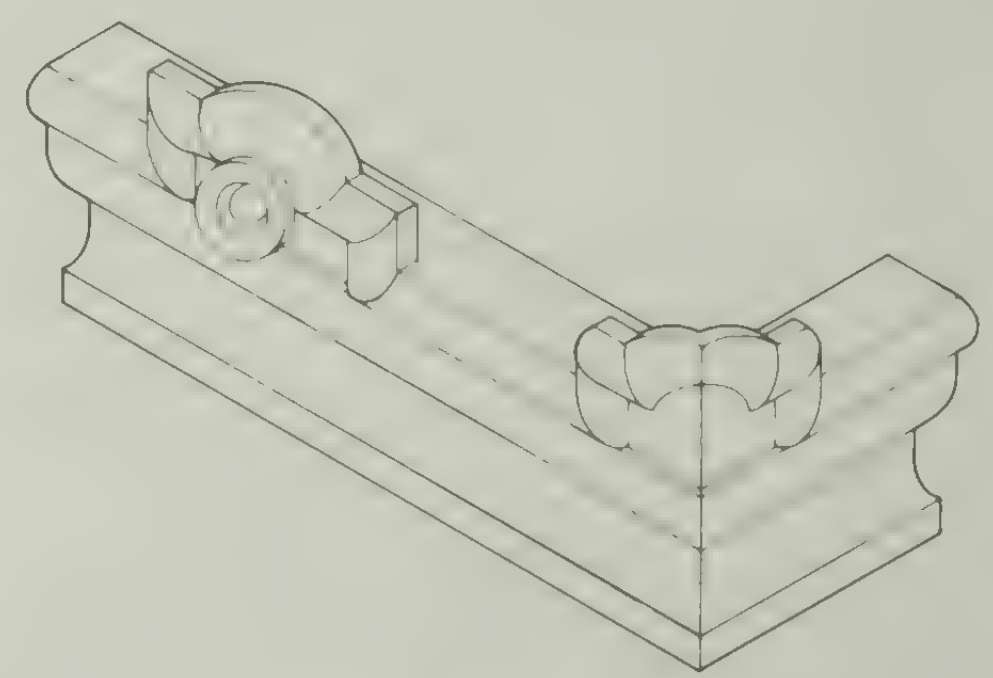
1 SECTION TYPE ORIGINAL TYPE
COPPER CORNICER CRESTING
PERIMETER OF CENTRAL ROOF HALF SCALE
*PERMITS FASTENING BRACKET CONTAINING BAR AND
WASHER OVERLAPPING NOT SHOWN



2 SECTION TYPE ORIGINAL TYPE COPPER
CORNICER CRESTING AT CHENEAU
PERIMETER OF CENTRAL ROOF HALF SCALE



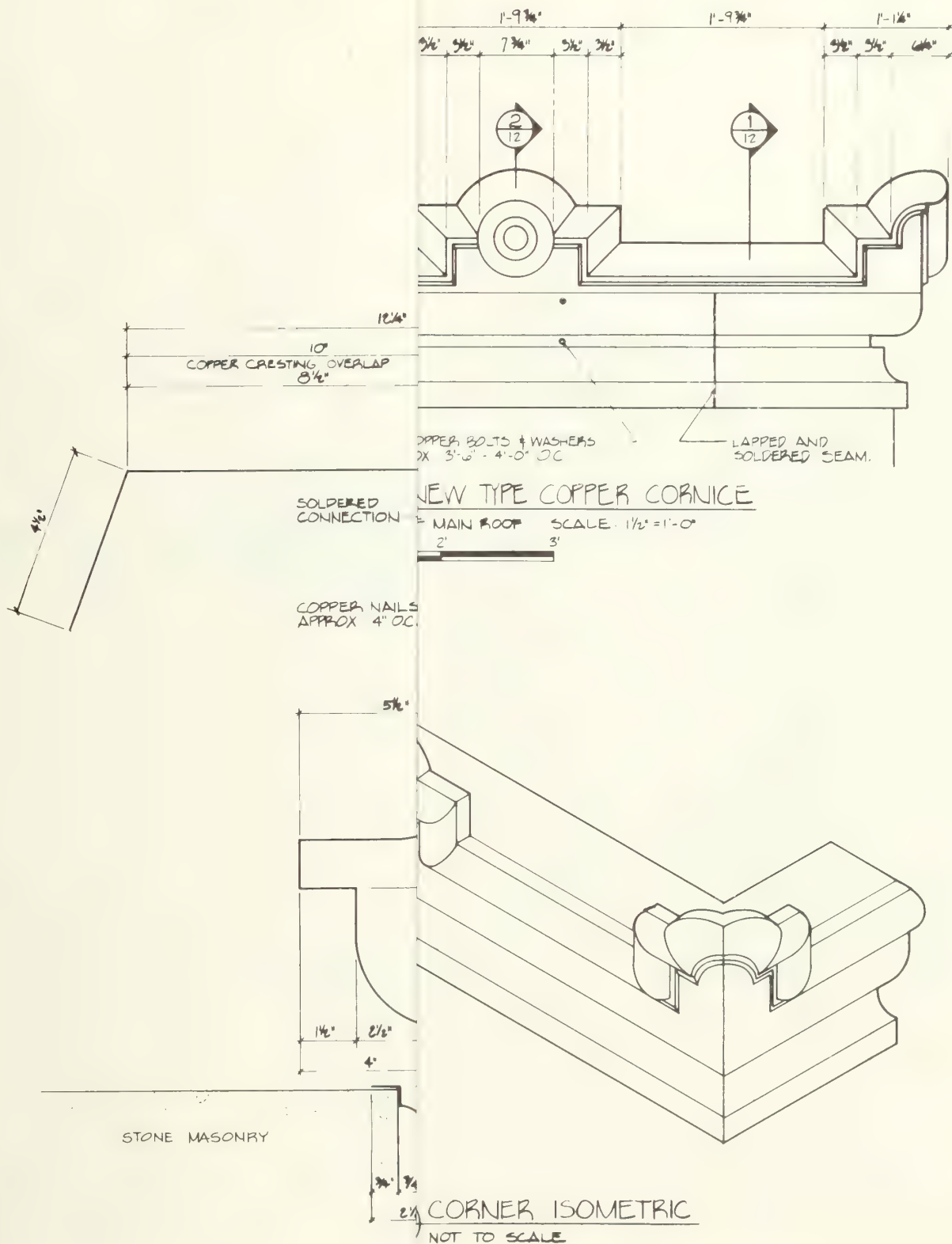
3 ELEVATION TYPE ORIGINAL TYPE COPPER CRESTING
PERIMETER OF CENTRAL ROOF SCALE 1/2" = 0'
*OVERLAP AND LOWER SEAM COPPER BOLTS WASHERS AND NUTS
CORNICER SHEETS ARE 3' LONG FASTENING PERIMETER TO ROOF TRUSSING
BRACKET BOLTED APPROX 12" ON



4 CORNER ISOMETRIC
NOT TO SCALE

HISTORIC STRUCTURE REPORT-APPENDIX E

| | | | |
|------------------------|-----------|--|----------------------|
| DESIGNED ORIGINAL | SHEET NO. | TITLE OF SHEET | DRAWING NO. |
| DRAWN R. TODD | | ORIGINAL TYPE COPPER CORNICER CRESTING-1900 | 356 25009 |
| CHECKED P. DESSAUER | | HISTORIC COPPER EXISTING CONDITIONS AS MEASURED IN COPPER STORAGE ROOMS, ELLIS ISLAND MAIN BUILDING, AUGUST 1982 | PKG. NO. 107 |
| DATE 1/83 | | | SHEET 11 OF 14 |



1 SECTION (TYP) NEW TYPE
12 CORNICE CRESTING.

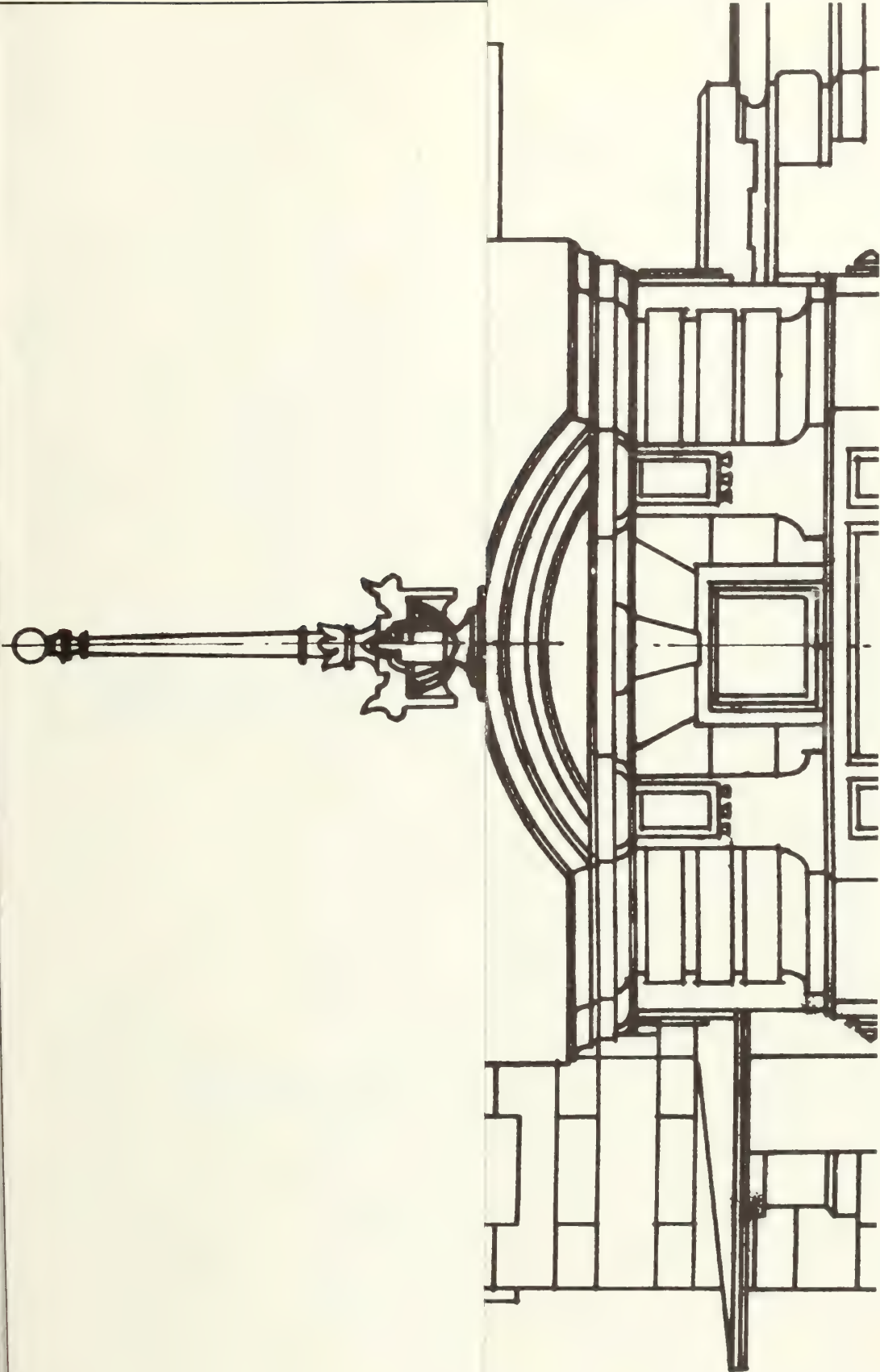
EXTERIOR PERIMETER OF MAIN ROOF
INTERIOR IRON FRAMING AND WOOD BLIND

ORIC STRUCTURE REPORT-APPENDIX E

| | |
|--------|--------------|
| TODD | SUB SHEET NO |
| REVIEW | |
| SSAUER | |
| 1 / 83 | |

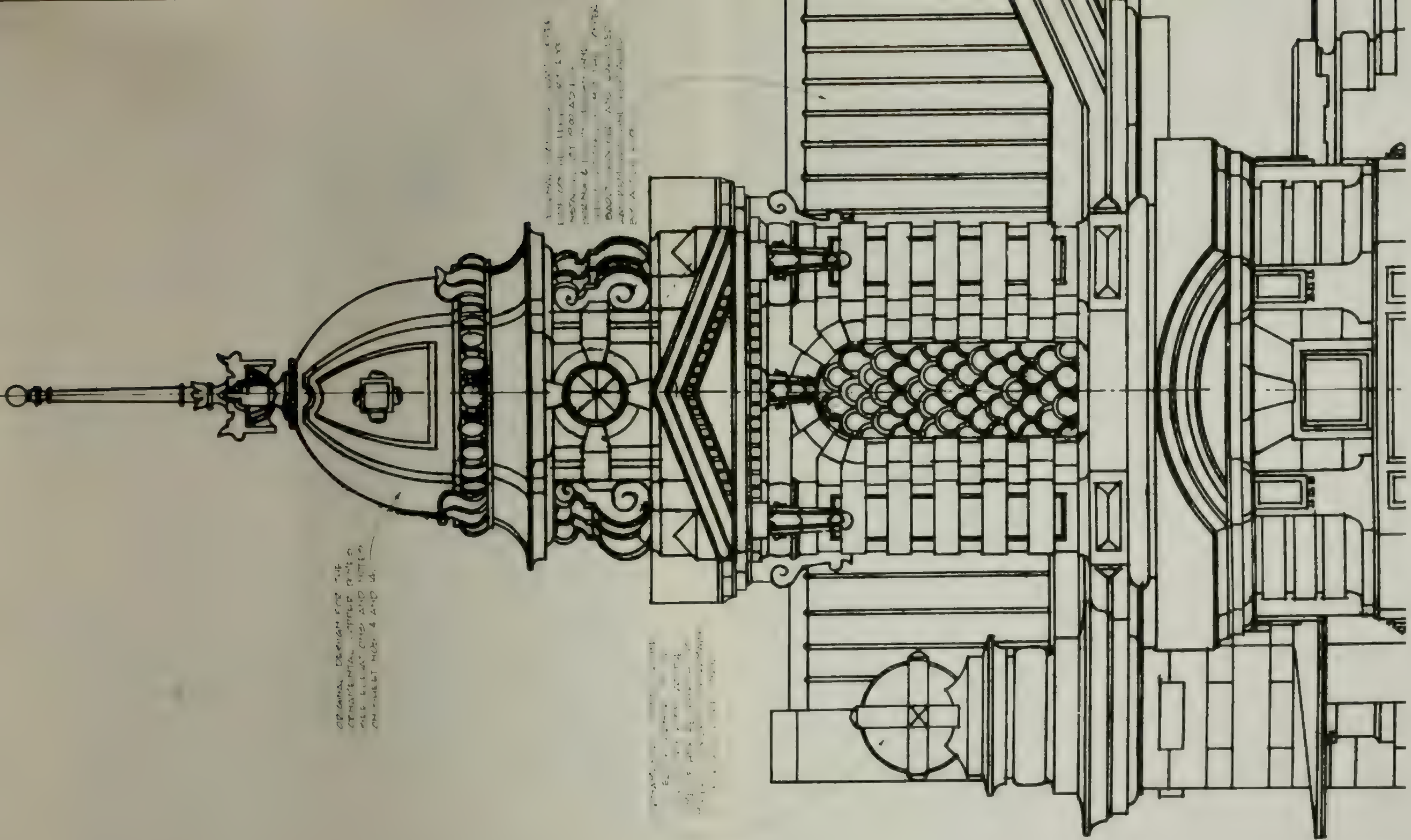
| | |
|---|--|
| TITLE OF SHEET | |
| NEW TYPE COPPER CORNICE CRESTING CIRCA 1912 | |
| HISTORIC COPPER EXISTING CONDITIONS, AS MEASURED IN COPPER STORAGE ROOMS, ELLIS ISLAND MAIN BUILDING, AUGUST 1982 | |

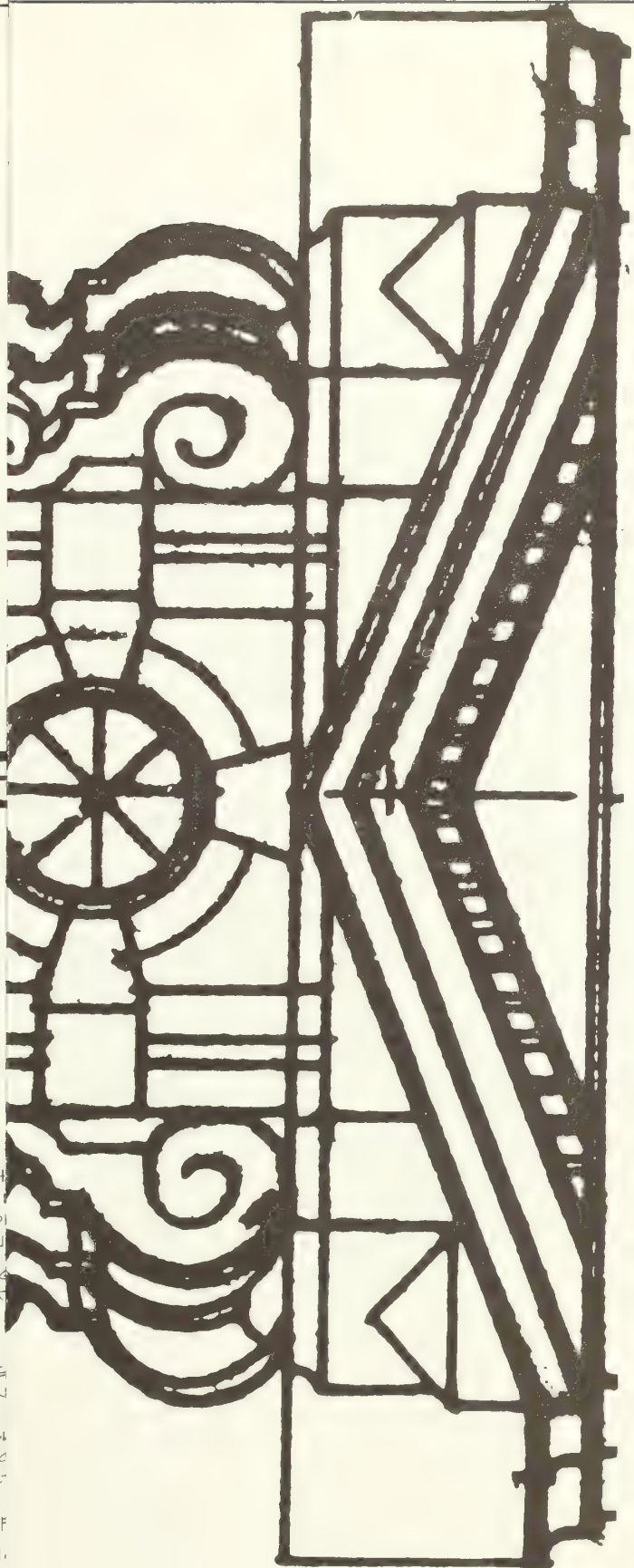
| | |
|-------------|-------|
| DRAWING NO. | |
| 356 | |
| 25009 | |
| PKG. NO. | SHEET |
| 107 | 12 |
| OF 14 | |



STORIC STRUCTURE REPORT - APPENDIX E

| | | | | | | |
|---|--|-----------------------|---|--|------------------------------|-------------|
| DESIGNED BY RING, TILTON G. 1898-99 | | SUB SHEET NO. | TITLE OF SHEET TOWER ELEVATION ORIGINAL 1898-99 DESIGN | | DRAWING NO. 356 25,009 | |
| DRAWN BY RING, TILTON G. 1898-99 | | | FOR RESTORATION OF AS BUILT CONDITIONS REFER TO DSC DRAWINGS NO. 356 / 25010 | | PKG. NO. 107 | SHEET 13 |
| CHECKED BY DESSAUER | | | | | OF 14 | |
| DATE 12 / 82 | | | | | | |



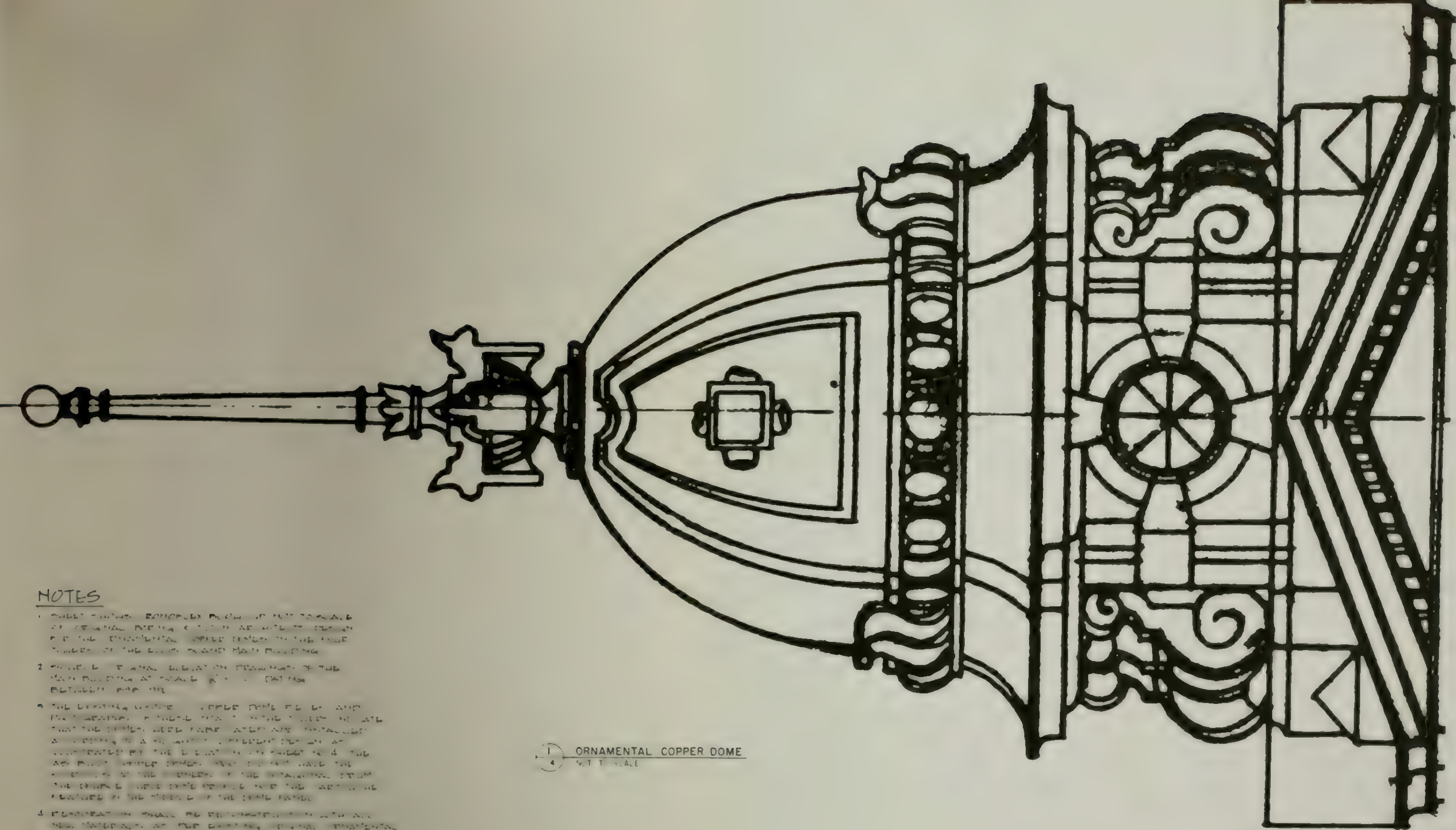


NOTES

1. SHEET SHOWS CROMOFLEX BLOW-UP, NOT A COPY, OF ORIGINAL BORING & TILTON, ARCHITECT, DRAWING FOR THE ORNAMENTAL COPPER DOMES OF THE TOWERS OF THE ELLIS ISLAND MAIN BUILDING.
2. SOURCE: ORIGINAL ELEVATION DRAWING OF THE MAIN BUILDING AT SCALE $\frac{1}{8}'' = 1'-0''$, DATED BETWEEN 1898-99.
3. THE EXISTING HISTORIC COPPER DOME PHOTOGRAPHS OF THESE INTACT ON THE ELLIS ISLAND SHOW THAT THE DOMES WERE FABRICATED AND FINISHED ACCORDING TO A SLIGHTLY DIFFERENT DESIGN THAN ILLUSTRATED BY THE ELEVATION ON SHEET NO. 4. AS BUILT COPPER DOMES (1900) DID NOT HAVE SCROLLS AT THE CORNERS OF THE DOUBLE CURVE DOME PROFILE, NOR A FINIAL FEATURE IN THE MIDDLE OF THE DOME PROFILE.
4. RESTORATION: SHALL BE RECONSTRUCTED USING NEW MATERIALS AS PER EXISTING OR AS BUILT COPPER DOMES AND THEIR AS BUILT DESIGN SHOWN ON THE ELEVATION SHEET NO. 4.

HISTORIC STRUCTURE REPORT-APPENDIX E

| | | | |
|---|---------------|---|---------------|
| DESIGNED BY JING, TILTON G. 1898-99 | SUB SHEET NO. | TITLE OF SHEET | DRAWING NO. |
| WON BY JING, TILTON G. 1898-99 | | ORNAMENTAL COPPER DOME ORIGINAL 1898-99 DESIGN | 356 25,009 |
| H. REVIEW | | AS BUILT SHOWN ON COPPER DOME ELEVATION SHEET NO 4 | PKG. NO. 107 |
| DESSAUER | | | SHEET 14 |
| DATE 12/82 | | | OF 14 |



NOTES

1. SHEET SHOWS CONCEPT DRAWING NOT TO SCALE OF ORIGINAL DESIGN. IT IS AN ADAPTATION OF THE ORIGINAL DESIGN ON THE BLUE PRINTS OF THE BUILDING AND MAIN BUILDING.
2. SHEET IS A FINAL ELEVATION DRAWING OF THE MAIN BUILDING AT SCALE 1/4" = 1'-0" DATUM BETWEEN 1900 AND 1901.
3. THE DESIGN OF THE ORNAMENTAL COPPER DOME IS AND FINIAL DESIGN. IT IS THE DESIGN OF THE DOME THAT THE DESIGNER WOULD HAVE BEEN INSTALLED. A DESIGN IN A BUILDING DIFFERENT FROM AN ADAPTATION OF THE DESIGN OF THE DOME IS THE ADAPTATION OF THE DESIGN OF THE DOME. THE DESIGN OF THE DOME IS THE DESIGN OF THE DOME. THE DESIGN OF THE DOME IS THE DESIGN OF THE DOME.
4. RECONSTRUCTION SHALL BE CONDUCTED WITH ALL NEW MATERIALS. THE DESIGN OF THE ORNAMENTAL COPPER DOME IS THE DESIGN OF THE DOME. THE DESIGN OF THE DOME IS THE DESIGN OF THE DOME.

1 ORNAMENTAL COPPER DOME
1/4" = 1'-0" SCALE

HISTORIC STRUCTURE REPORT-APPENDIX E

| | | | |
|---|----------------------------|---|---|
| <p>DATE: 10/10/00 BY: J. J. J. CHECKED: J. J. J. APPROVED: J. J. J.</p> | <p>PROJECT NO. 356</p> | <p>ORNAMENTAL COPPER DOME ORIGINAL 1898-99 DESIGN AS BUILT SHOWN IN COPPER DOME ELEVATION SHEET NO. 4</p> | <p>DRAWN NO. 356 25,009 PKG NO. 07 SHEET 14 OF 14</p> |
|---|----------------------------|---|---|

APPENDIX F: COST ESTIMATE

The following is the A/E's cost breakdown of contracts for the main building as of June 1984.

Ellis Island - Main Building

June 1934

COST BREAKDOWN BY CONTRACTS

| | |
|---|---------------------|
| A. Mobilization Docking & Material Transportation | \$ 4,153,600 |
| B. (1) Debris Removal Etc. - Contracts Let to Date | 340,000 |
| (2) Selected Demolition | 200,000 |
| C. Contract 'C' - Shell and Structural Estimate (Level 'A') (including waterborn transportation) | 13,264,000 |
| D. Contract 'D' - Interior Preservation Estimate (Level 'B') | 22,459,400 |
| E. Exterior Utilities - From Level 'C' Estimate | 2,387,200 |
| F. Interpretive Design, Exhibitory, Tower Restoration | Excluded |
| G. Canopy and Site - Level 'B' Estimate | 5,745,800 |
| | <u>48,550,000</u> |
| H. Addition of Powerhouse (Exterior Shell & Space Preparation) | 1,500,000 |
| | <u>50,050,000</u> |
| I. Tower Restoration | 1,600,000 |
| <u>TOTAL OF CONTRACTS</u> | <u>\$51,650,000</u> |

BIBLIOGRAPHY
ELLIS ISLAND HISTORIC STRUCTURE REPORT
DOCUMENTATION

Prepared for the U.S. Department of Interior/National Park Service,
Denver Service Center by Beyer Blinder Belle/Notter Finegold Alexander

HISTORIC STRUCTURES REPORTS

| | | |
|------------------------|-------------------------------------|----------|
| Volume 1 | The Main Building June 1, 1984 | NPS D-41 |
| Volume 2 Part One | Unit One Buildings December 1985 | NPS D-42 |
| Volume 2 Part Two | Unit One Buildings December 1985 | NPS D-42 |
| Volume 3 | Powerhouse December 1985 | NPS D-43 |
| Volume 4 Part One | Units 2, 3 and 4 August 30, 1986 | NPS D-44 |
| Volume 4 Part Two | Units 2, 3 and 4 August 30, 1986 | NPS D-44 |
| Volume 4 Part Three | Units 2, 3 and 4 August 30, 1986 | NPS D-44 |

EXISTING CONDITION SURVEYS

| | | |
|------------------------------------|-----------------------------------|----------|
| Volume 1 Appendix A | Main Building February 1, 1984 | NPS D-41 |
| Volume 2 Appendix D | Unit One Buildings July 1985 | NPS D-42 |
| Volume 3 Appendix A | Powerhouse December 1985 | NPS D-43 |
| Volume 4 Appendix A Part One | Units 2, 3 and 4 July 1986 | NPS D-44 |
| Volume 4 Appendix A Part Two | Units 2, 3 and 4 July 1986 | NPS D-44 |

As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

Publication services were provided by the graphics staff of the Denver Service Center. NPS D-41 July 1988

DATE DUE

JAN 10 1992

Ret'd DEC 13 1991

